

BUSINESS WEEK

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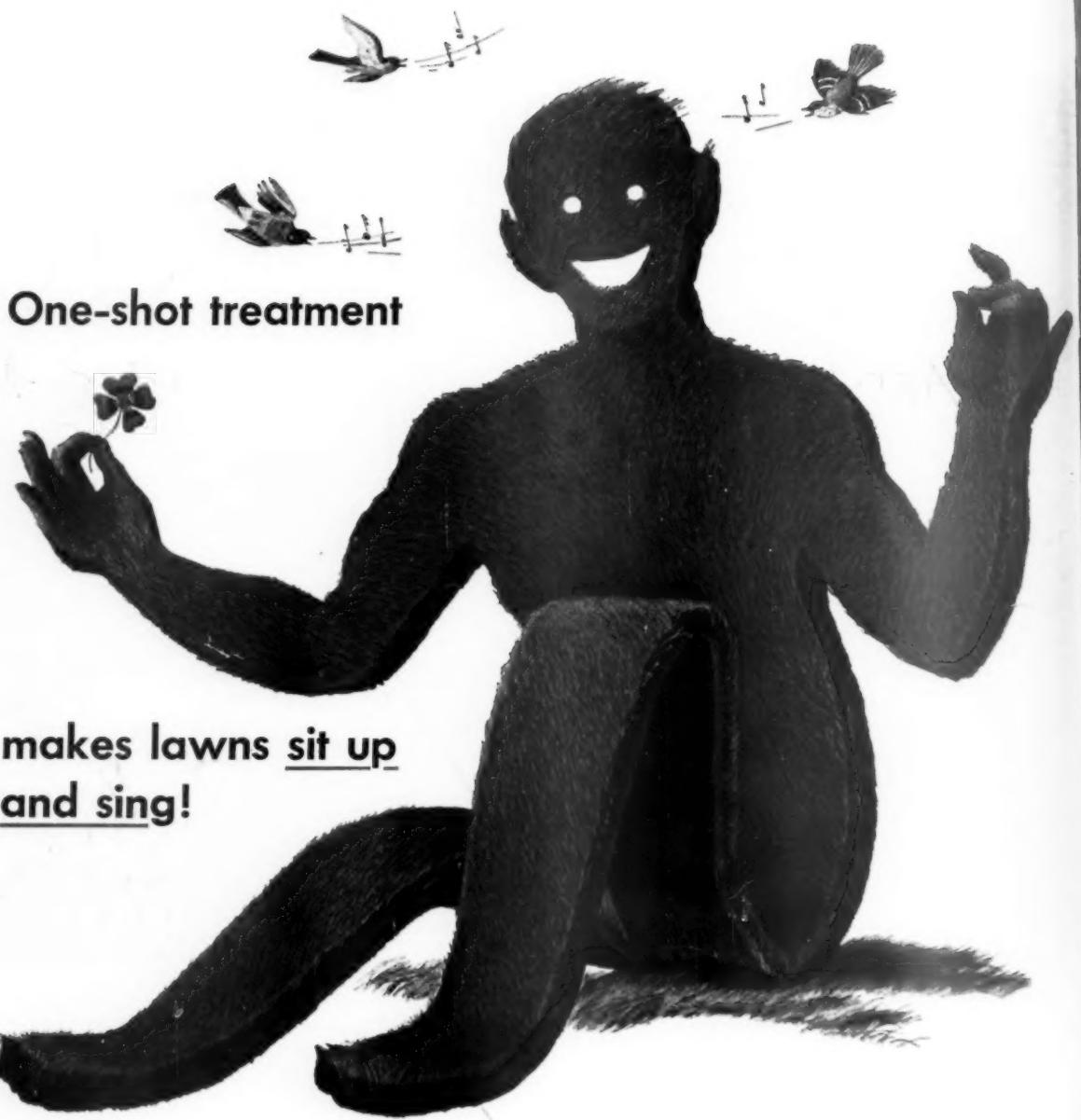


What it took to put Cities Service into Arabia (page 92)

A MCGRAW HILL PUBLICATION

APR. 16, 1955

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PERIODICAL RECORD
OXFORD OHIO



One-shot treatment

**makes lawns sit up
and sing!**

For the true cause of a sickly lawn first look below ground where turf insects chew away at vital roots. Science has proved that these soil pests sap the strength of lawn and pasture grass.

And science has done something about it with *Dieldrin*, a compound which Shell Chemical supplies to insecticide makers. So potent, so effective is Dieldrin that a single treatment keeps soil insects under control *for several years!* Larvae of

June beetles and Japanese beetles, whole colonies of lawn-wrecking ants, chinch bugs, webworms (lawn moths), and sowbugs succumb to Dieldrin in parks, athletic fields, private lawns—as well as in productive pasture land.

Well known as an agricultural insecticide, Dieldrin offers home owners better lawns, lower maintenance. Look for the name Dieldrin on packages where you buy garden supplies.

Shell Chemical Corporation

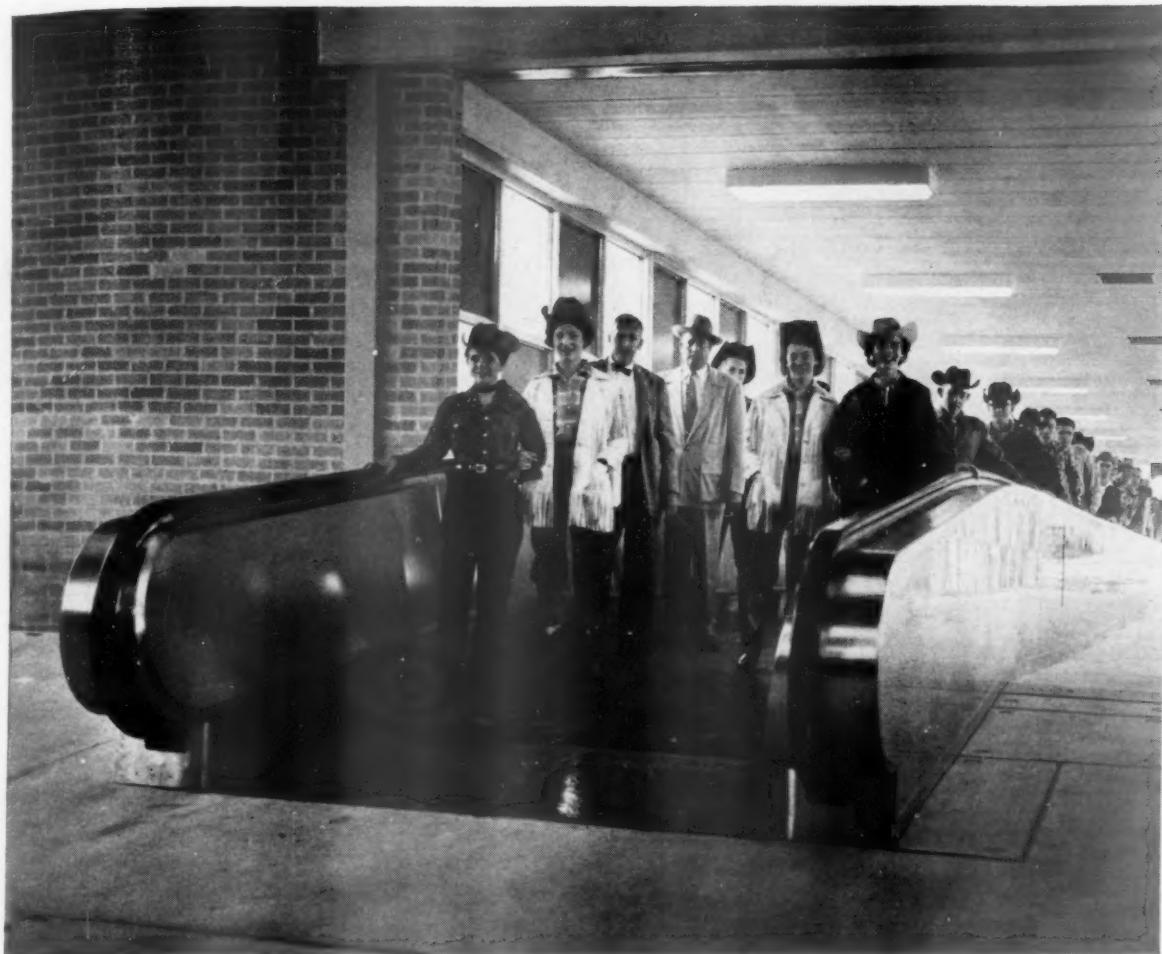
Chemical Partner of Industry and Agriculture
NEW YORK



RESEARCH KEEPS

B.F. Goodrich

FIRST IN RUBBER



This sidewalk does your walking for you

A typical example of B. F. Goodrich improvement in rubber

HERE'S how people "walk" while standing still—an easy, no-stop, no-waiting way to travel. It's the new B. F. Goodrich "Powerwalk" just opened at the Houston, Texas, Coliseum.

B. F. Goodrich engineers had developed many kinds of conveyor belts to move materials faster. They believed the same idea could be used to speed crowds of people along heavily traveled hallways and ramps. The result of their work is seen in the picture—a moving sidewalk that carries 15,000 people an hour across a bridge from a parking lot to the auditorium.

The moving rubber belt is as easy and safe to ride as an escalator. The speed can vary, but most of them will move at 1½ miles an hour. If you're in a hurry, you can walk along the moving belt and so get where you're going 50% faster, or you can stand relaxed and let the sidewalk do your walking for you.

Before long, you and your luggage may ride a B. F. Goodrich Powerwalk from a train platform to a taxi stand, or out to an airplane loading ramp, or through a crowded hallway in a bus station.

The new rubber Powerwalk is only

one example of the product development and improvement that is always going on at B. F. Goodrich. New ways are constantly being found to make conveyor belts, V belts and hose work better, last longer. That's why you can be sure of top performance and real money savings when you buy rubber products from your B. F. Goodrich distributor. *The B. F. Goodrich Company, Dept. M-403, Akron 18, Ohio.*

Powerwalk—T. M. The B. F. Goodrich Co.

B.F. Goodrich
INDUSTRIAL PRODUCTS
DIVISION

Suit by Adele Simpson.



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figures. It adds, subtracts,
multiplies and divides *automatically*
... and *prints* all essential
elements in the calculation on
the Simpla-tape. Each time
you operate this amazing machine,
you get a two-color, easy-to-read,
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or checked for accuracy without
re-running the problem.
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complex for the model 99.
See for yourself.

the
tape's
the
thing!



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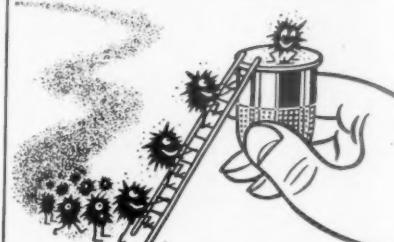
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BUSINESS WEEK • Apr. 16, 1955

AIR-MAZING FACTS

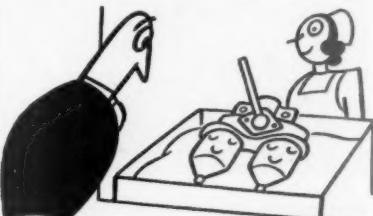
BY O. SOGLOW



TAKES A BILLION TO FILL THIMBLE! How small are the dust particles created by vehicles, by manufacturing and all the rest of man's activities? So small on the average that it would take more than a billion to fill a thimble! But even the finest dust can be removed from the air...



ELIMINATES DUST ELECTRONICALLY! Electro-maze electronic air filters "electrocute" the finest dusts, pollens—and even smoke particles. Widely used in offices, hospitals and factories. Can be serviced automatically. New G-E selenium rectifier eliminates tube maintenance.



IT'S TWINS! No need for shutting down production when oil line filters need cleaning. With a new Air-Maze duplex full flow oil filter on the job you can clean one "twin" at a time, while oil continues to flow through the other.

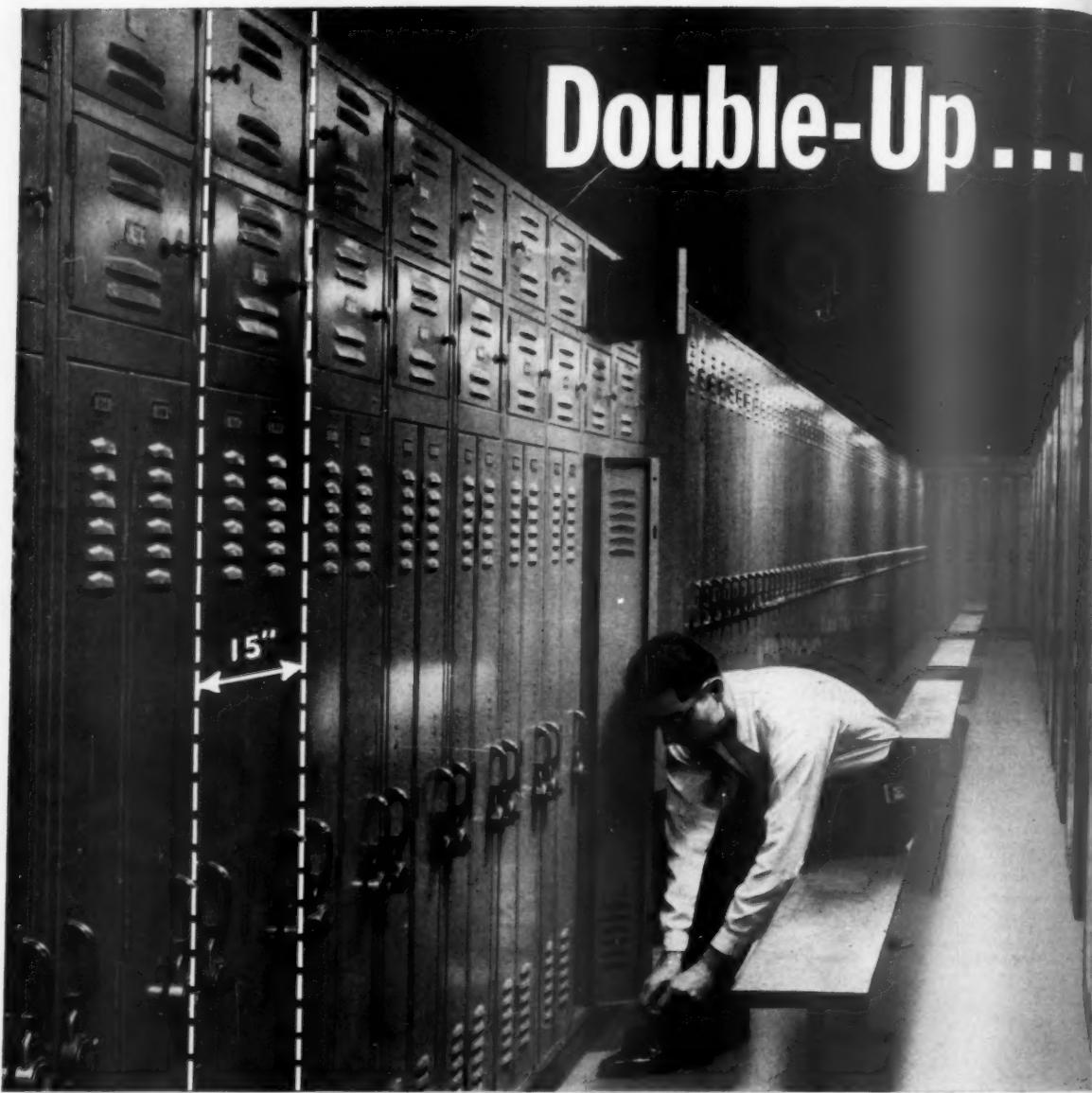
IF YOU BUILD OR USE engines, compressors, air-conditioning and ventilating equipment, or any device using air or liquids—the chances are there is an Air-Maze filter engineered to serve you better. Representatives in all principal cities. For condensed product catalog, write Air-Maze Corporation, Dept. C, 25000 Miles Rd., Cleveland 28, Ohio.

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in comfort with REPUBLIC'S "SPACESAVER" LOCKERS

It's the ideal locker where space must be conserved—or utilized to obtain the maximum number of locker accommodations.

A standard 15" in width, the Republic "Space-saver" two-person locker, made by the Berger Division, provides separate compartments for two people in no more floor area than that required for one large individual single-tier locker. And yet the occupant has ample room to store his street-wearing apparel and other personal effects.

Each compact locker is equipped with Berger's unique pre-locking door. The door operates with either a built-in lock or a padlock. It is designed to provide locked security the instant it is closed. When a padlock is used, for example, simply re-

lock it in the loop immediately after the door is opened. There's no need to rely on memory to safeguard belongings once the door is closed. There's no separate locking of the hat compartment to bother with, either. When closed, it locks simultaneously with the lower door by a foolproof innerlocking device.

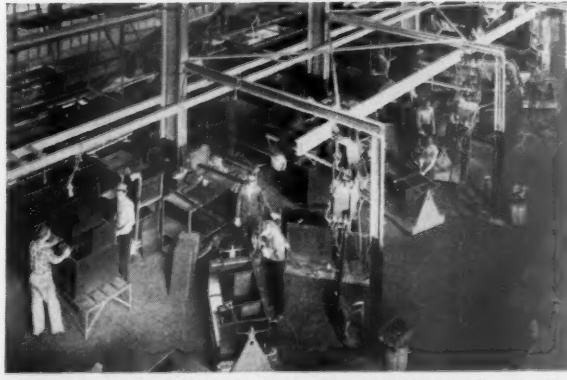
Modern steel lockers that provide clean, safe storage for clothing and valuables can be a powerful aid to good employee relations. Investigate Berger's big line of quality lockers. Let Berger, the world's largest supplier of steel storage facilities, help you with your design, engineering or installation problems. Call your local Berger Sales Office. Or send coupon for descriptive literature.

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LIBERTY



He knew the ropes. This man is 50 years old, is married and has three children. He is known as "a pillar of the community." He's been working from his manufacturing plant for three years and he started to work for the company seven years ago. This is the *average* plant to which Liberty Mutual's long experience in protecting manufacturers against crime losses shows that the man who steals most is the man who knows the ropes. A valuable feature of Liberty's Crime Coverage is the individualized Crime Prevention Survey — available as a service to policyholders. It includes Liberty's investigation of bonded employees, which often extends back as far as ten years. Liberty's unique loss prevention service is a big factor in enabling policyholders to keep premiums low.



Grand larceny at the pay window. Thieves in industry have been known to keep employees' names and payroll months after they left. But that's only one of the basic ways of stealing from a manufacturer. Stealing inventory and "fencing" it is industry's costliest type of theft. No business is immune. Some crime losses have remained undiscovered for more than 25 years. Discovering danger in time to prevent crime is the job of Liberty Mutual's specially trained Crime Auditors. Preventing loss enables Liberty to write insurance at lower cost.

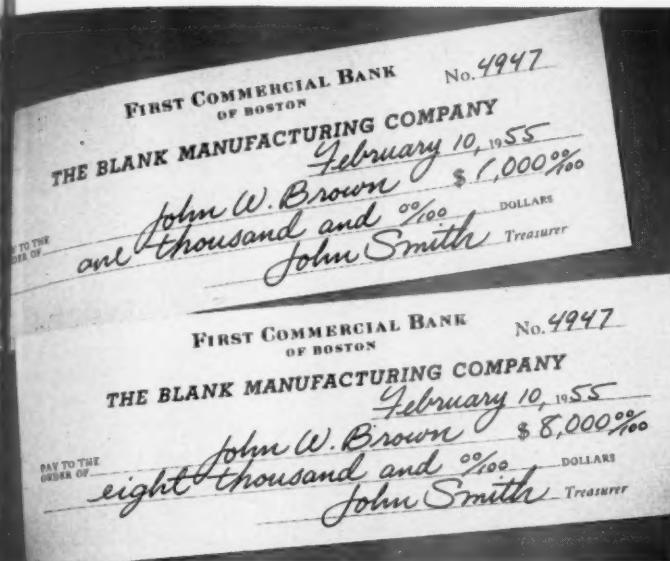
TO THE
PAYER OF
PAYMENT
BY ORDER

18 million
raises the
counts for
forged sig-
natures.
Protection
compre-

The case of
the money
taken by
news. Li-
facturers
section to
on the pre-
money or
charged
a fire. A
policy co-
premises

MUTUAL

The Company that stands by you



18 million dollars is peanuts! The pictures above show how a clever penman raises the figures on a check. This particular kind of crime, *alteration*, accounts for some 18 million dollars in check losses in the U. S. annually. But forged signatures or endorsements take an estimated toll of 350 million dollars! Protection against this and other crime losses is given by Liberty Mutual's comprehensive Manufacturers' Crime Policy at relatively small cost.



The case of the missing money. Whether money is destroyed by mice or taken by a burglar, it's still bad news. Liberty Mutual's new Manufacturers' Crime Policy has a special section that covers *all loss of money on the premises*. It even protects if money or securities in a safe are charred beyond redemption during a fire. Another section in Liberty's policy covers any loss of money off premises.

**Liberty's NEW
Manufacturers' Crime Policy***
lets you save up to 45%

This comprehensive crime policy provides protection against: (1) Dishonesty of Employees; (2) Loss Within Premises; (3) Loss Outside Premises; (4) Forgery of Issued Instruments; (5) Can be extended by endorsement to include other hazards.

Liberty's Crime Prevention Service, available only to policyholders, is a prime factor in lowering insurance rates. Experience-rated policy-holders can help set their own rates and can make savings of as much as 45%.

Low overhead, through direct dealing with customers, has always kept Liberty's costs down. Dividend returns have never been less than 15% on Crime insurance.

*Not available in Virginia, Louisiana, Texas or Wisconsin, but crime coverage is afforded under other policies.



950-million-dollar gamble! American industry's crime loss is easily more than *one billion dollars per year* — and only 5% of this is insured. Few manufacturers would dare to ignore fire insurance, yet industry's fire loss was a lot less than the crime loss. Crime ate up *a quarter of a billion dollars more than fire*. A single aspect of crime in industry — the dishonesty of employees — causes 7% of the business failures. Liberty Mutual's newest crime policy is specially designed to give manufacturers the coverage they need.

LIBERTY MUTUAL
HOME OFFICE BOSTON

LIBERTY MUTUAL INSURANCE COMPANY • LIBERTY MUTUAL FIRE INSURANCE COMPANY

READERS REPORT

We're All George

Dear Sir:

I wish to express my concurrence with the principles expressed by Reader Morrison in Readers Report, "Not Economics" [BW—Mar. 26 '55, p13]. It is encouraging to see this type of realistic thinking in print. . . . When will we learn that governmental juggling of the medium of exchange can bring about nothing beyond redistribution of the fruits of our efforts, and to some degree, transitory dislocations of some segments of the economy . . . and that long-term improvement of living standards can result *only* from increased per capita productivity?

The problem . . . really has two facets—production of consumer goods and distribution of these goods.

The first [can be] solved through increased useful productivity. . . .

The second admits of several solutions, but a singular one is defined when a "philosophy of distribution" is chosen, whether the choice is capitalism or socialism. . . . It is through an incentive system which permits one to retain a reasonable part of the rewards of his initiative that most rapid progress toward higher living standards are insured. Where is the incentive for progress when opportunity for self-improvement is stifled?

We all like to let George do it, but too many believe George is the pet name for the government or its currency presses. Inflation through deficit financing does not give us more purchasing power; it merely takes, by legalized larceny, the fruits of past labors in the form of savings and pensions, and gives them to others.

The sooner we all realize that each one of us is George, the better will be our chances of warding off the not-so-creeping socialism we outwardly deprecate. We must individually earn our way to a better life; government cannot deliver it to us en masse on a "paper money platter."

ROBERT E. MORRISON
IRVINGTON-ON-HUDSON, N. Y.

Free Airways

Dear Sir:

Re your article, "Radar With 100-Mile Reach Speeds Airport Traffic" [BW—Mar. 19 '55, p80], you



A road earning money? Absolutely—in the form of gas taxes and license fees you pay to drive on it. The more vehicle miles of traffic a road handles the more money it earns.

This concrete road is Shirley Memorial Highway, Va. The section shown carries a daily average of 24,000 vehicles.

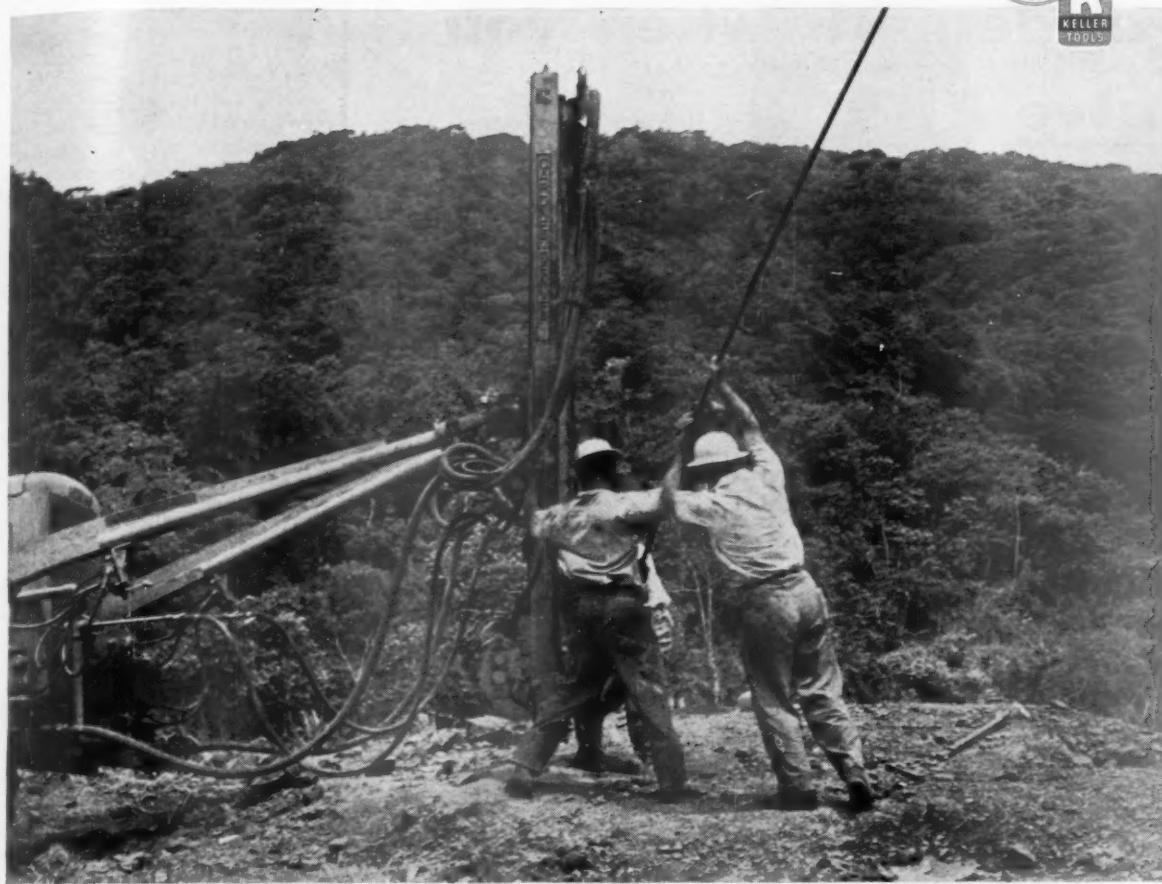
The number of vehicles traveling this road per day	24,000
Times the average vehicle tax per mile in Va.	\$0.00745
Equals this road's earnings per day per mile	\$178.80
Times the number of days in a year	365
Equals the annual earnings of this road per mile	\$65,262
Minus the annual cost to build and maintain such a road during its expected lifetime	\$10,000
Equals the annual net profit this road earns per mile	\$55,262

Concrete roads are the biggest money-makers because they attract the most traffic and have the longest life and lowest annual cost. Other pavements often fail to earn their building and maintenance cost. This drain on available funds leaves less and less for new highway construction.

To motorists, who pay for highways, this is an important reason why all main roads should be paved with concrete.

PORLAND CEMENT ASSOCIATION, 33 W. Grand Ave., Chicago 10, Ill.
A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

Gardner-Denver MAKES AIR DO MORE AT LESS COST



Lowering drill steel for tractor-mounted Gardner-Denver blast-hole drilling rig at the Panama Canal.

PANAMA CANAL BLOCKADE PREVENTED

...another example of GARDNER-DENVER experience

Treacherous Contractors' Hill, bordering the Panama Canal, was cracking apart. Two and a half million cubic yards of rock and dirt threatened to slide into the big ditch and block ship traffic for a full year. Stabilizing the slide—removing the dangerous overhang—was an emer-

gency job calling for the finest engineering brains and the most efficient equipment. And, as so often happens on big projects, Gardner-Denver was in the picture.

It's a 96-year habit with Gardner-Denver—keeping abreast of changing needs in a wide variety of

industries . . . using field experience to design equipment that does the job faster, easier and at less cost. Engineering research—engineering progress—is a constant process with Gardner-Denver. That is why so many large companies—and countless small ones—call Gardner-Denver first. Gardner-Denver Company, Quincy, Illinois.

GARDNER-DENVER



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That means long, long mileage for your gift, at very modest investment. Each time a Zippo flashes into flame—20... 40... 60 times a day—your products and services will be remembered! Send the coupon now!



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ZIPPO MANUFACTURING CO.

Dept. B-23, Bradford, Pa.

Please give me full information about business gift Zippos—prices in large or small quantities, time of delivery, opportunity to use color, and the help your design department will give us in making a beautiful and distinctive gift.

Name _____

Firm _____

Address _____

state that, "Antagonists feel that all air space should be a free highway, and not subject to a plan as stringent as this."

These "antagonists" you mention are made up of a large segment of the private and business aircraft operators who object to being forced out of terminal traffic areas, under instrument and semi-instrument conditions, to make all airspace available for the airlines. This point is being pushed under the guise of safety, to restrict non-airline traffic, by such prejudiced groups as the P.N.Y.A./C.A.A. combine, for the New York Terminal area.

Actually, extensive radio development has made the single, multi-engine business aircraft as safe as the scheduled airline, under instrument operating conditions...

We have found that the C.A.A. which was created to "foster and develop aviation," has confined their efforts to assisting the development of scheduled airlines. In this endeavor, the C.A.A./C.A.B. have placed every restriction possible, in the development of private and business flying, particularly in terminal instrument traffic.

The "antagonists" to which you refer, are interested only in securing equal consideration in flying on the aerial highways, with the flying "buses" who are operating for the profit of their respective stockholders.

NAME WITHHELD

• Our understanding is that business aircraft usually are as well instrumented as commercial type planes. Therefore, they don't object too much to airport controls.

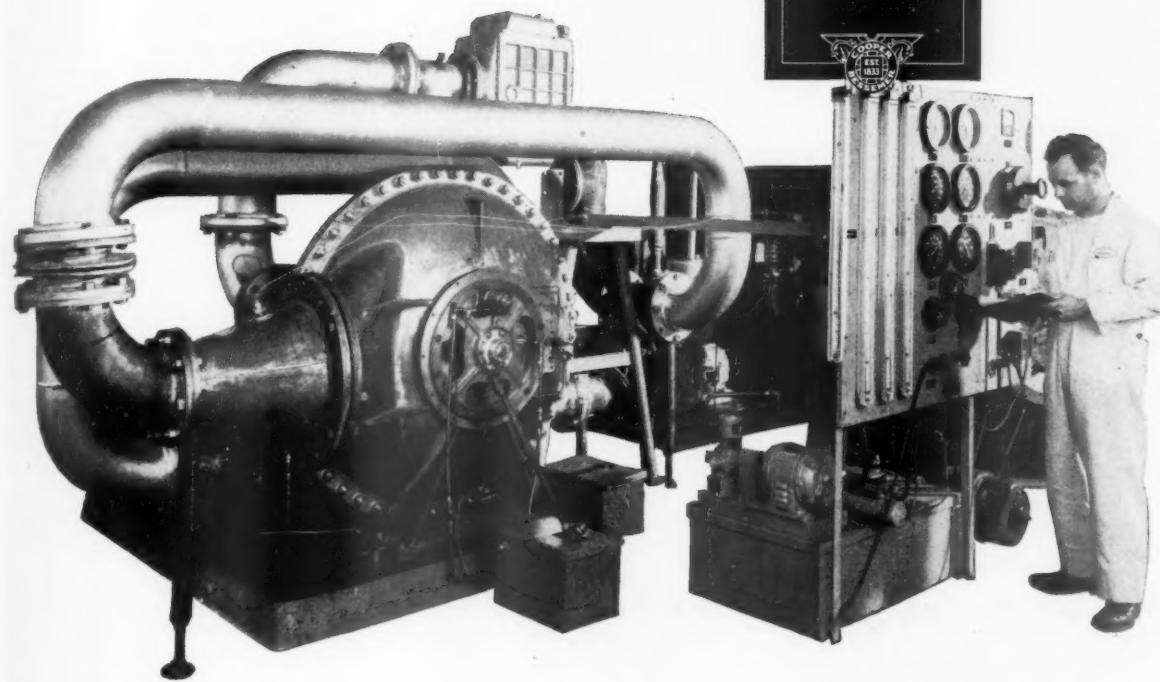
Old Stuff

Dear Sir:

... Contrary to what BUSINESS WEEK says in the article "Anti-Smog" [BW—Mar. 12 '55, p47] and most Los Angelinos think, "Smog" is not of U.S. coinage. It was invented by a British doctor better than a half-century ago and first appeared in print in 1905.

[Also,] the divulging of trade secrets couldn't be older [BW—Mar. 12 '55, p26] "The Ears on Your Office Walls." I have seen a translated papyrus 3,000 years old in the Cairo Museum by a "manufacturer" bitterly complaining to a friend about a stolen formula for an eyewash. Likewise, there is a papyrus in which one merchant complains to another about the cor-

Another Example
of
Efficient Power
at Lower Cost



Hot compressor... prescribed for new problems

PRAISE be, American industry is always on the go — always working out new and better ways to do things. A good example is today's incredible chemical and petrochemical industry. As in most other industries, new processing techniques have posed new problems. One is how best to handle the huge-volume compressing of gases and air. And that is a field in which Cooper-Bessemer has a 100-year stake.

Shown above during test stages is one of Cooper-Bessemer's latest answers—a highly efficient, remarkably compact, multi-stage centrifugal compressor, that can be driven by electric motor, internal combustion engine or turbine. These space-saving compressors will help solve many new problems of industry; are already in phases of government service.

Although such centrifugal compressors are new in application, they are not new in Cooper-Bessemer experience. Here work on rotating compressor equip-

ment has been under way for years . . . anticipating these very problems . . . and the answers.

It's easy to determine whether your compressor needs can be met best, most economically with reciprocating units . . . or with new-type centrifugals. It's also easy to find out all about the *new* things being done by one of America's *oldest* engine and compressor builders . . . and it pays!

Mount Vernon, Ohio

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Long Engine Life

No Objectionable Fumes

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Long Oil Life

Less Maintenance

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For the highest efficiency in fork lift operation see your nearby Towmotor Representative . . . you'll find a complete line of constant power fork lift trucks for every requirement. Consult your Telephone Directory or write TOWMOTOR CORPORATION, Div. 204, 1226 E. 152nd St., Cleveland 10, Ohio.

TOWMOTOR
THE ONE-MAN-GANG

ruption in the government and
overly high taxes. News?

BOB FRED
EKCO PRODUCTS CO.
SAN FRANCISCO, CALIF.

The Reasons Why

Dear Sir:

I have read with great interest, the article entitled "Title Insured in Clover" which appeared in BUSINESS WEEK March 5, '55, p50.

It gave in my opinion a clear evaluation of title insurance and the benefits that may ensue to the benefit of a policy holder.

The defense of suits or of claims arising out of the realty . . . is the most important part of the insured's protection. Should an owner of real estate have his title questioned, whether the claim is just or not, he would be forced out of necessity to obtain legal counsel and go through the expense of protecting his interest. In case of the claim being proved he alone would suffer a loss. The insured owner, or lender, however, would benefit as soon as a title would be questioned. He has at his disposal the trained legal staff of his company and the basic protection of a policy; the payment of a loss if there should be any.

The availability of the title company to evaluate and determine if a claim is valid, and to defend such claims or to clear a title for the insured, should be considered paramount among the reasons for title insurance. This is particularly important where the claim against the insured is not just or unwarranted. In such cases the insured is not encumbered by any expense in the defense of his title whatsoever, where no ultimate loss could come about.

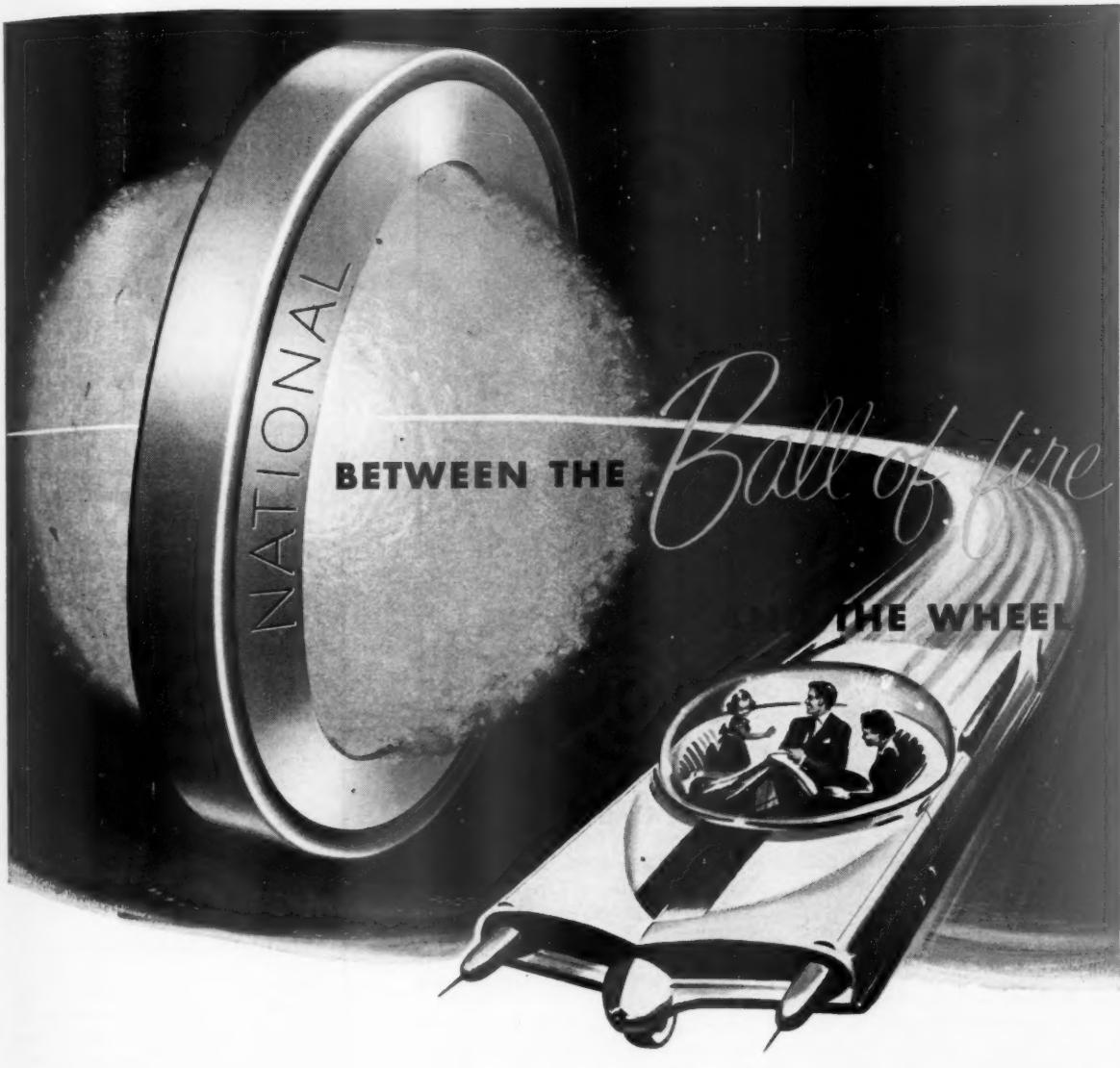
ARTHUR J. SELTZER

SECRETARY
METROPOLITAN TITLE GUARANTY
CO.
NEW YORK, N. Y.

Heat Hinders Too

Dear Sir:

Re your article "Theme Song of Engineers Is the Blues" [BW—Feb. 26 '55, p116]. Not only does noise reduce the efficiency of engineers and other [workers] . . . so does excess heat. Far too many offices show temperatures of 80° F. all winter long. This . . . costs a goodly percentage of the payroll, increases turnover, absenteeism, dullness, griping and illness. When medical men and public health officials recommend 70° to 74° for



Motor cars of tomorrow will be swift and silent

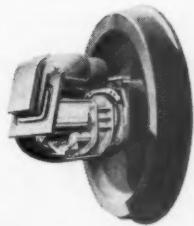
beyond belief, powered by the mightiest forces man can employ. Perhaps this power is nuclear, perhaps from a chemical fuel. From either will come the "release explosion"—a swirling "ball of fire"—pure energy to be contained, controlled, delivered to the wheels.

Oil seals will shoulder much of the responsibility. Besides sealing dirt out and lubricant in, seals will serve as air, fuel and even pressure seals. They must withstand shaft speeds to 60,000 rpm at pressures of 60 psi and temperatures to 500°.

National Motor Bearing's advance engineering program for the future brings about many "years ahead" developments in National products of today.

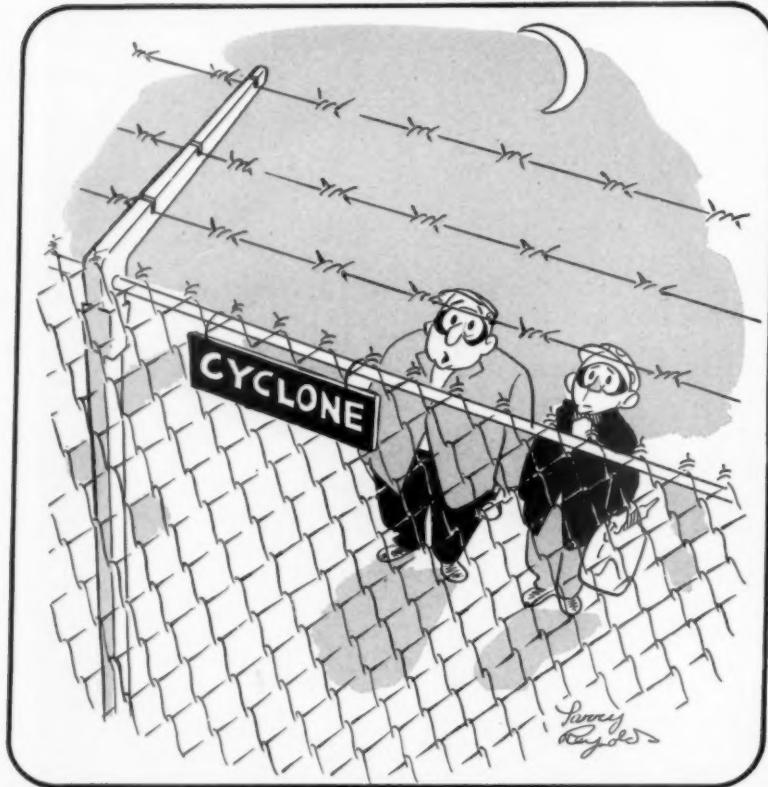
NATIONAL MOTOR BEARING CO., INC.

General Offices: Redwood City, California. Sales Offices: Chicago, Cleveland, Dallas, Detroit, Downey (Los Angeles County), Indianapolis, Milwaukee, Newark, Van Wert, Wichita. Plants: Redwood City, Downey and Long Beach, California; Van Wert, Ohio.



Sealing Achievement! New NMB Sealed Journal Box Kit converts standard journal assemblies in freight cars to sealed bath lubrication. This recent development virtually solves the 100-year-old railroad "hot box" problem. It can eventually save railroads over \$200 million annually. *Pat. & Pats. Pend.





"You sure you wanna tackle that Cyclone Fence?"

• Cyclone Fence is designed with the thief in mind. Every detail of its fine construction is worked out to *protect* the property it encloses. Result? Cyclone is the most widely used property protection fence in the world.

You can buy cheaper fence than Cyclone, but it will cost more in the long run. Cyclone contains nothing but brand-new, top-quality material.

The chain link fabric is woven from heavy steel wire — galvanized *after* weaving to prevent cracks that encourage rust. Erection is handled by full-time, well-trained experts, so you can be sure of a fence that stays taut and trim.

Cyclone engineers will be glad to help you solve your fencing problems. Meanwhile, *send for the free booklet.*

CYCLONE FENCE DEPT., AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION
WAUKEGAN, ILLINOIS • SALES OFFICES COAST-TO-COAST • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS CYCLONE FENCE

Cyclone is the trade-mark name of fence made only by Cyclone. Accept no substitute.

FREE BOOKLET ON FENCE

Our informative booklet is filled with photographs, drawings and graphic descriptions of different styles of fence and gates for the protection of property. Whether you're interested in a few feet of fence or miles of it, you'll find this booklet worth your while. Send for your copy. It's free.

CLIP THIS COUPON — SEND IT TO —

Cyclone Fence, Waukegan, Ill., Dept. 445

Please mail me, without charge or obligation, a copy of your booklet.

Name.....

Address.....

City..... Zone..... State.....



UNITED STATES STEEL

sedentary work—whether creative or repetitive—why all the wasteful heat? After 26 years' [experience], I still don't know. Do you?

THEODORE F. KAIN
COSHOCOTON, OHIO

• Do any of our readers have the answer?

7½ Year-[Old]-Cub

Dear Sir:

In your article "Farm Machines Learn Detroit Tricks" [BW—Feb. 26'55, p.62], you state, "International Harvester Co. has entered the low-power field with its Farmall 'Cub,' designed to replace horses and mules in areas where mechanization has developed slowly."

However, as dealers for International Harvester equipment, we received and delivered our first shipment of Farmall "Cubs" in late 1947, and have continued to sell them successfully for the past seven and one-half years. We believe we Farmall dealers deserve recognition for our years of satisfying the needs and requirements of the individuals utilizing the low-powered tractor.

WILLIAM M. STOCKSON
ASSISTANT TREASURER
M. L. COFFIN CO.
BANGOR, MAINE

Octane Scramble

Dear Sir:

The octane scramble among the East Coast oil refiners ["The Race for the High Numbers," BW—Feb. 26'55, p.66], emphasizes some of the difficulties the refiners have in trying to convince the motorist that there may be some differences in gasolines, other than price.

The ballyhoo on the West Coast now is playing up the use of detergents in the gasoline. This is sort of a Scotch-and-Soda type of refining. They give you the antidote with the poison. The theory apparently being that even though the gasoline may leave sticky deposits in the fuel lines and carburetors, the detergent comes along and cleans it up.

And so the merry-go-round continues. Motors stutter and stall due to stuck needle-valves. The car dealer mechanic shows you the goo in the carburetor, and the refiner says you need more octanes or detergents.

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OPST

1955



*He saw Madame and this he asked her
"How can I get my shipments faster?"*



*He took her advice, what it was you can guess
Now orders come swiftly by RAILWAY EXPRESS*

The big difference is →

Railway Express makes the big difference in speed, economy, and safe, sure delivery. Whether you're sending or receiving, whether your shipment is big or small, and whether it's moving by rail or air, it will pay you to specify shipment by Railway Express. It's the complete shipping service in the American tradition of private enterprise.



...safe, swift, sure

We've been saying

"Eye Accidents Cost More Than

\$5.00 Per Worker"



**One Industry Has "Had it"
up to \$30,528 per Accident**

In studying the costliness of eye injuries, one industry discovered that the Workmen's Compensation Laws awarded \$30,528 for complete loss of vision and \$7,700 for partial loss. Eye-hazardous operations included chipping concrete, operating machine tools (both woodworking and metal-working), using hand tools (both power and manually operated), using compressed air and the various burning, cutting, welding and brazing operations.

How about *your* industry — and *you*? As against a two, three, four and even five figure eye accident cost, the average safety goggle costs only \$2.30 (and it prevents 98% of industrial eye accidents).

Where can you get a better return on your investment? For full details, including savings on lowered insurance costs, savings on idle machine charges and other benefits of an AO† Eye Protection Program, write American Optical Company, 514 Vision Park, Southbridge, Mass. Or ask an AO Safety Representative to call.

For the *finest* in protection — look for the AO monogram on safety lenses and frames.

American Optical

 SAFETY PRODUCTS DIVISION

†T. M. REG. BY
AMERICAN OPTICAL COMPANY

SOUTHBRIIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

BUSINESS OUTLOOK

BUSINESS WEEK

APR. 16, 1955



Money rates now loom as one of the few curbs on business.

The Federal Reserve this week raised the discount rate to 1 3/4%—a hike of 1/4%. The Kansas City Federal Reserve had requested the rise, but, as usual, all other Reserve Banks will fall in line with the new rate.

As always, there is some question just how much drag such a rise will exert. But there's psychology. The new rise brings the discount rate back to what it was a year ago, when the recession was at its worst. Now, with business booming, it is a signal that Washington will hold the reins—to avoid a possible runaway.

The pressure for a rise came from two sources in the short-term money market:

- Commercial paper was marked up again by dealers, as expected (BW—Apr. 9 '55, p50). Companies with top-notch credit ratings now must pay 1 1/8% on four- to six-month credit instead of 1 3/4%.
- Treasury bill rates rose again. Uncle Sam's average interest cost on the latest issue of 90-day paper was 1.66%. (That's the highest since the autumn of 1953 and double the rate nine months ago.)

Anyone can see, with short-term money renting at less than 2%, that there isn't any pinch as yet. But the rise in rates also shows that the authorities aren't going to risk inflation by feeding out credit.

—•—
Demand for money has been rising at an unusually rapid rate so far this year—just as business has picked up at an extraordinary pace.

Loans of all kinds made by the Federal Reserve member banks that report each week now are above \$381/2-billion for a new high. That's about \$1 1/2-billion over the figure at this time last year.

Included are business and consumer borrowings, loans used in the financial markets, real estate transactions, and so on.

Fastest growing of all the loan figures, of course, is that for home mortgages (outstanding in an amount exceeding \$75-billion at the end of 1954).

And mortgage debt probably will rise about \$9-billion this year.

Tightening up on mortgages hasn't gone much beyond the talk stage.

Many in Washington would like to see lenders take the ball. For their part, lenders are likely to say it's Washington's move—that the government set the rush off by relaxing terms on FHA and VA mortgages.

Business loans haven't swollen a great deal so far this year—but the significant thing is that they have gone up.

The normal thing is a substantial decline between Christmas and Easter. This year, these loans have gone up by a quarter of a billion dollars.

You can judge just how unusual that rise is by this: Business loans slid about \$200-million in the first quarter of both 1952 and 1953 with activity booming; in slumping 1954, they fell \$600-million.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK
APR. 16, 1955

Don't figure that peak demand for money is past if business loans fail to rise in the next few weeks. They normally should decline.

Consumer credit hasn't ignored seasonal trends quite so completely as is the case with business loans. But there is a similarity.

People have been paying their Christmas charge account debt. This has reduced consumer credit, over-all.

But, at the same time, installment borrowings have been going up.

Autos have, of course, dominated the time-sales total. With the new cars selling like hot cakes, outstanding paper on automobiles probably rose no less than \$400-million in the first quarter.

Last year, in the same period, there was a drop of \$300-million.

Even the stock market is putting its share of strain on credit. Purchasers now owe brokers about \$2½-billion on stocks bought on margin, fully \$800-million more than a year ago.

Personal debt will come in for increasing attention at the rate people are borrowing this year.

The rise has been 200%—up from about \$55-billion at the end of World War II to approximately \$165-billion at the start of 1955, according to estimates prepared by the Institute of Life Insurance.

Metal market circles were less impressed with zinc's price rise this week—with the March statistics in hand—than they had been last week when the quotation was marked up.

Stocks of the metal were reduced little more than 5,000 tons last month. The trade had expected the cut to be at least twice that.

Tottering copper prices in London were dealt a severe blow at mid-week. The British government announced it would dispose of its 45,000 ton "trading stock," metal held at the time free markets were restored.

The market for copper scrap in New York, as if forewarned, dipped quite abruptly the day before London's announcement.

Copper people in this country had more quarrel with London's timing than with the copper disposal program.

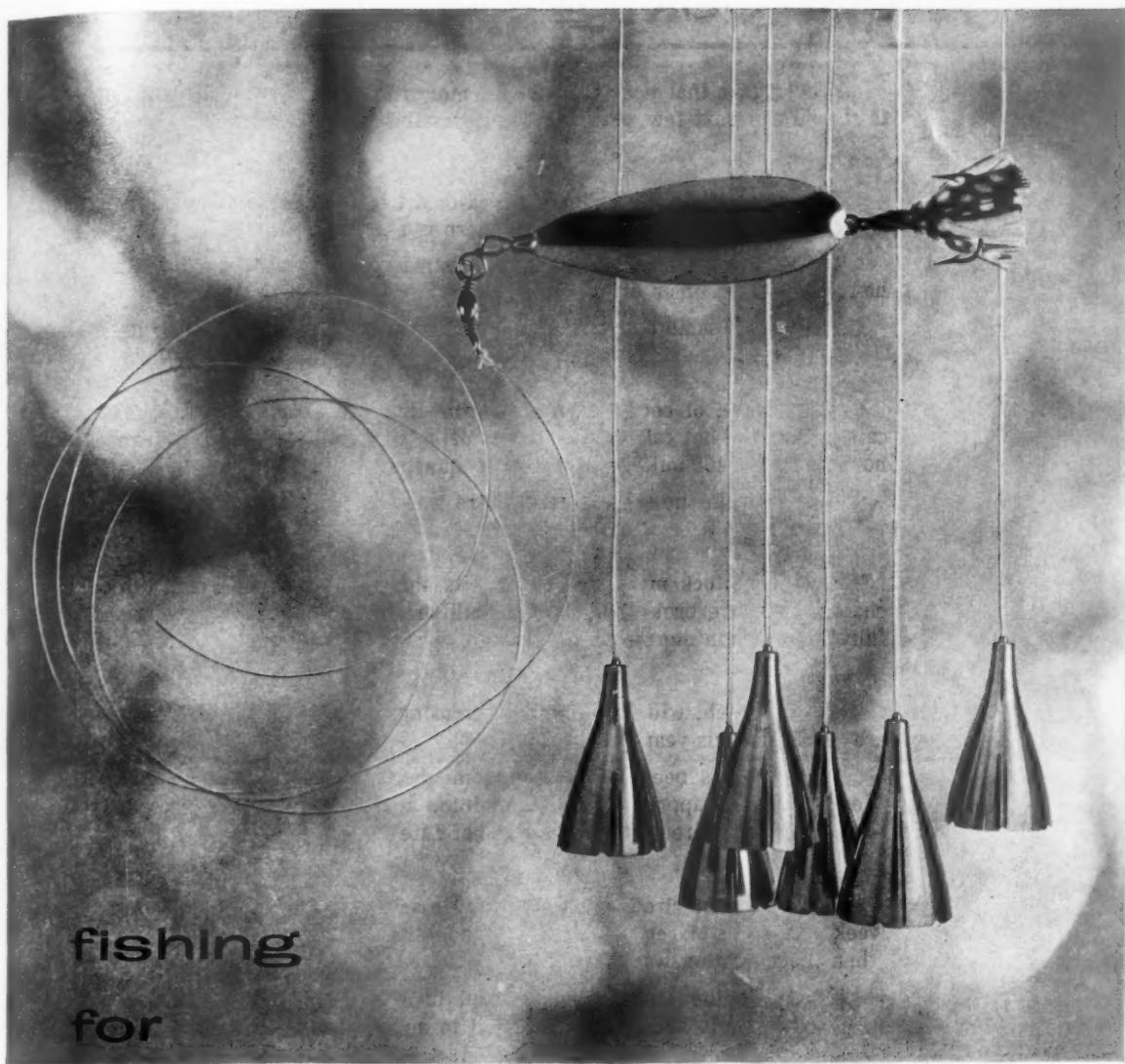
"Why couldn't the British have acted earlier?" One analyst asked. "Then the American producers, who were trying to hold the price at 33¢ in this country, wouldn't have been forced into the advance to 36¢."

Akron is beginning to talk of new records for tire output this year.

Auto production being what it is, original equipment demand has been running about 40% ahead of last year. Replacement sales are up, too.

A six-day week is common. And some major companies, which supply the auto makers, have worked various departments on Sundays.

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LIGHTING DESIGNED BY PAAVO TYNELL FOR FINLAND HOUSE

fishing

for

new sales

appeal? — try the allure of "tailor-made"

Western BRASS

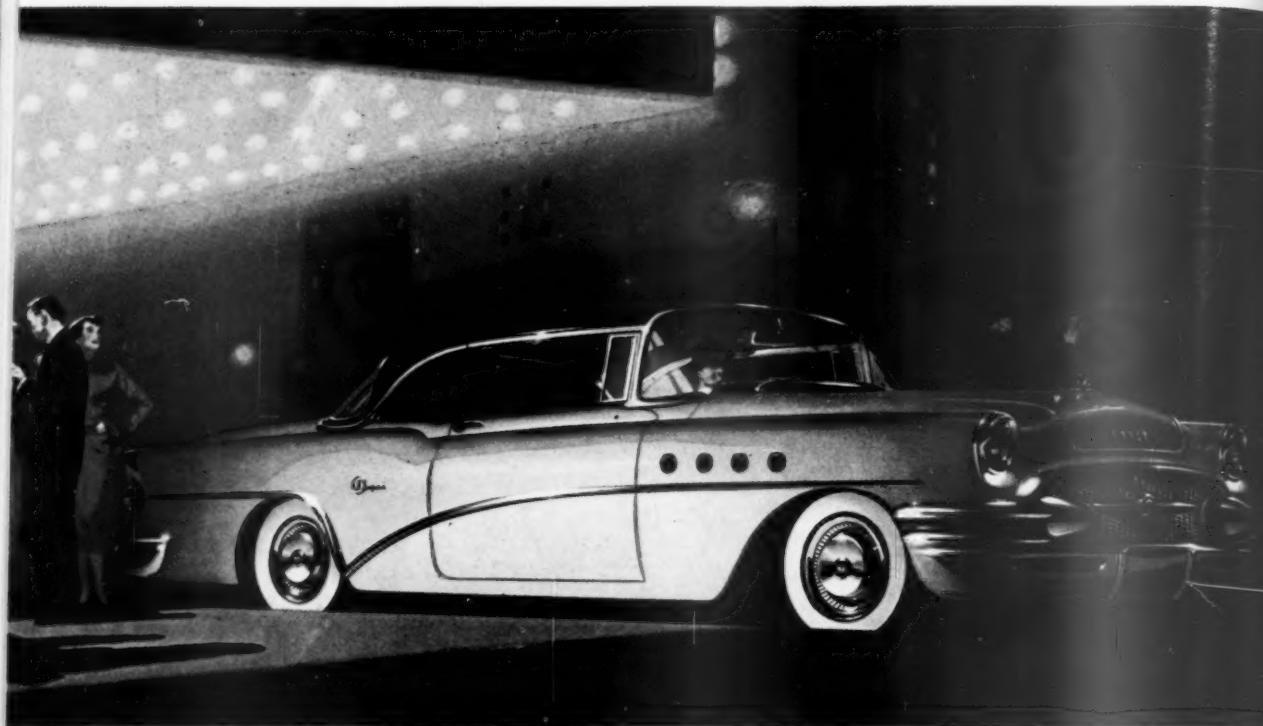
Here's a line on how to make your product a sales leader—add the beauty, strength and durability of Western brass or copper. Old hands at metal making, Western supplies the copper and brass used by the manufacturers of such diversified products as fishing

lures, refrigerators, door knobs, auto trim, radiators and many, many other items in everyday use. Western has a corps of experts whose sole duty is to study a manufacturer's problem and

come up with just the metal best suited for a specific job. Call or write today and let them show you the way to greater sales appeal. That's what they're there for.

metals division
OLIN MATHIESON CHEMICAL CORPORATION
PLANTS • EAST ALTON, ILL.—NEW HAVEN, CONN.

We expected applause -



but we got an ovation

FROM the day the first of the 1955 Buicks took shape in form and life on the long assembly lines, we knew they were good, and destined for success.

For these were cars styled with bold distinction—built with exacting care and integrity—engineered to outperform every line of Buicks before them.

Buick Sales Are Soaring As Never Before

But what has happened—and continues to happen in ever-increasing degree—is something beyond all expectation.

The welcome these 1955 Buicks are getting is a *thunderous ovation*.

Orders in mounting volume continue to pour in—to the point where we have had to boost Buick production to an all-time high to meet the unprecedented demand.

And on the record book it translates into this fact: *Buick sales are sweeping to new best-seller highs week after week after week.*

This soaring success traces to many things.

To glamorous new styling. To brilliant new power. To superb new handling ease. To a great ride that is more than ever the envy of the industry.

But you will find the clincher, we believe, when you try the spectacular performance of Variable Pitch Dynaflow*...

When you see the better gas mileage you get, and the instantaneous power-surge you command when you "switch the pitch" of the first airplane-inspired automobile transmission.

The over-all feeling can't be described, any more than can the way a Spring morning puts a lift in your heart.

But it *can* be experienced—by you—and this very week. Just drop in on your Buick dealer and he'll gladly arrange matters.

BUICK Division of GENERAL MOTORS

*Dynaflow Drive is standard on Roadmaster, optional at extra cost on other Series.

CHOOSE YOUR CAR FROM THE HOTTEST BUICKS IN HISTORY

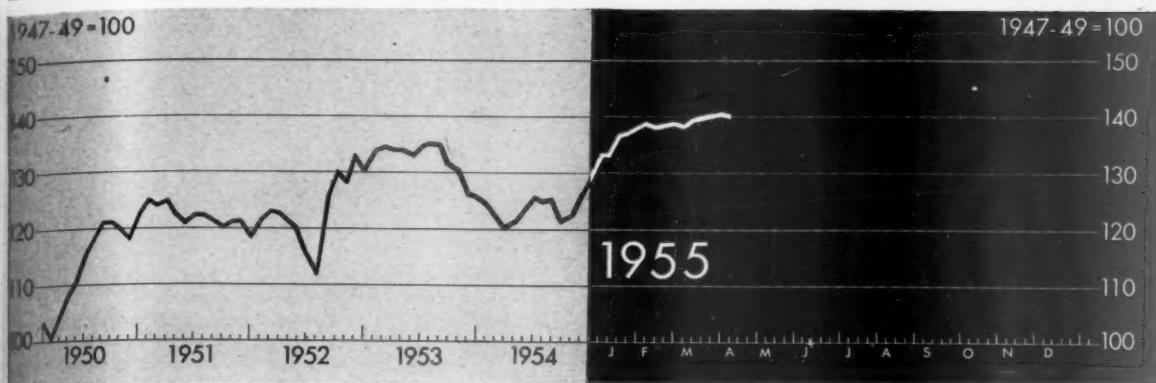
No wonder you see so many '55 Buicks on the highways—there's one for every price range. And they're rolling up bigger sales than ever before in history—topping the popularity that has already made Buick one of the "Big Three" of America's best sellers. Choose from the low-priced SPECIAL—the high-powered CENTURY—the extra-spacious SUPER—the custom-built ROADMASTER.

Thrill of the year is Buick

MILTON BERLE STARS FOR BUICK—See the Buick-Berle Show Alternate Tuesday Evenings

When better automobiles are built Buick will build them

FIGURES OF THE WEEK



Business Week Index (above)

Latest Week	Preceding Week	Month Ago	Year Ago	1946 Average
*140.3	+140.9	139.5	120.8	91.6

INTRODUCTION

Steel ingot production (thousands of tons).....	2,292	+2,300	2,273	1,622	1,281
Production of automobiles and trucks.....	207,107	+218,437	204,285	152,074	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands).....	\$62,013	\$66,268	\$59,103	\$51,415	\$17,083
Electric power output (millions of kilowatt-hours).....	9,633	9,804	9,726	8,396	4,238
Crude oil and condensate production (daily av., thousands of bbls.).....	6,811	6,807	6,845	6,568	4,751
Bituminous coal production (daily average, thousands of tons).....	1,361	1,317	1,297	1,138	1,745
Paperboard production (tons).....	255,769	271,066	269,618	242,573	167,269

TRADE

Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars).....	73	69	71	67	82
Carloadings: raw materials (daily av., thousands of cars).....	37	38	38	33	53
Department store sales (change from same week of preceding year).....	+11%	+3%	+15%	-13%	+30%
Business failures (Dun & Bradstreet, number).....	211	237	257	246	22

PRICES

Spot commodities, daily index (Moody's Dec. 31, 1931 = 100).....	402.5	401.9	395.3	436.2	311.9
Industrial raw materials, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100).....	92.4	91.9	90.7	85.4	††73.2
Foodstuffs, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100).....	86.7	86.3	85.8	102.8	††75.4
Print cloth (spot and nearby, yd.).....	18.6¢	18.7¢	18.7¢	19.8¢	17.5¢
Finished steel, index (U. S. Dept. of Labor BLS, 1947-49 = 100).....	144.7	144.7	144.7	140.9	††76.4
Scrap steel composite (Iron Age, ton).....	\$37.33	\$37.00	\$37.50	\$25.17	\$20.27
Copper (electrolytic, Connecticut Valley, E&MJ, lb.).....	36,000¢	36,000¢	33,000¢	30,000¢	14,045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$2.45	\$2.49	\$2.46	\$2.45	\$1.97
Cotton, daily price (middling, ten designated markets, lb.).....	33.66¢	33.69¢	33.65¢	34.01¢	30.56¢
Wool tops (Boston, lb.).....	\$2.00	\$2.00	\$2.05	\$2.12	\$1.51

FINANCE

90 stocks, price index (Standard & Poor's).....	298.1	293.2	284.2	219.2	135.7
Medium grade corporate bond yield (Baa issues, Moody's).....	3.49%	3.48%	3.49%	3.46%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate).....	1½-1¾%	1½-1¾%	1½-1¾%	2%	¾-1%

RANKING (Millions of dollars)

Demand deposits adjusted, reporting member banks.....	55,086	55,590	56,769	52,376	††45,820
Total loans and investments, reporting member banks.....	85,085	83,455	84,242	78,406	††71,916
Commercial and agricultural loans, reporting member banks.....	22,568	22,707	22,375	22,714	††9,299
U. S. gov't guaranteed obligations held, reporting member banks.....	34,425	32,885	34,177	31,518	††49,879
Total federal reserve credit outstanding.....	25,011	24,848	24,714	25,357	23,883

MONTHLY FIGURES OF THE WEEK

	Latest Month	Preceding Month	Year Ago	1946 Average
Housing starts (in thousands).....	March	117.0	90.0	95.2
Private expenditures for new construction (in millions).....	March	\$2,151	\$1,986	\$1,779
Public expenditures for new construction (in millions).....	March	\$768	\$658	\$788
Wholesale prices (U. S. Dept. of Labor BLS, 1947-49 = 100).....	March	110.0	110.4	110.5
Retail sales (seasonally adjusted, in millions).....	February	\$14,765	\$14,864	\$13,972

*Preliminary, week ended April 9, 1955.

†† Estimate.

§ Date for "Latest Week" on each series on request.

in BUSINESS this WEEK . . .

GENERAL BUSINESS:

ATOMIC POWER: IT'S IN BUSINESS. New AEC rules open way to company licenses, private reactor building in near future. p. 25

INVESTIGATING THE ANTITRUSTERS. Democrats are leading Congressional committees in attack on Administration policies. p. 26

SPOTLIGHT ON BANK HOLDUPS. A nationwide increase is worrying insurance companies and the FBI. p. 27

COURT REFUELS . . . natural gas fight by upsetting Oklahoma law in favor of federal control. . . . p. 29

BUSINESS ABROAD:

STRONG TORY TEAM AIDS EDEN . . . as election fever rises in Britain this week. p. 150

U.S. GOES ON DISPLAY. Trade fair propaganda move proves successful for businessmen, too. p. 155

CANADA:

EUROPEAN MONEY MIGRATES, TOO. Canada seems a natural for investment opportunities. . . . p. 170

RED INK ON PURPOSE. Ottawa's prescription for economic health is a budget deficit. p. 178

COMPANIES:

CITIES SERVICE TACKLES AN ARABIAN WILDCAT. What goes on when U. S. firm digs holes in the desert in quest for oil (cover). . . . p. 92

FINANCE:

NEAR-TERM PROSPECT IS BRIGHT . . . for airline profits to follow revenues upward. p. 113

GM STILL EARNS THE MOST. Auto firm remains income champ. . . . p. 116

BROKERS TURN TO AUTOMATION. Electronic calculators catch up with Wall Street. p. 118

GOVERNMENT:

IF BOMBERS COME:

I. MEETING THEM IN THE AIR . . . and blasting them out of sky is strategy U. S. relies on. . . . p. 52

II. PROTECTING TARGET-DWELLERS . . . from H-bomb is a nightmarish problem for CD men. . . . p. 58

III. KEEPING INDUSTRY ALIVE . . . by scattering plants weakens enemy's striking power. p. 66

FLYING MANHOLE COVER. Attempts to produce a simple-to-operate air vehicle bring weird contraptions. p. 30

EASTER FINERY: SECOND BEST YEAR. Retailers wonder how much weather and the hardgoods boom affected sales. p. 31

HARDDOOLS: RACING WITH THE AUTOS. Early high sales, linked with housing boom, worry makers. p. 32

Business Briefs. p. 34

MARKETING:

APPLIANCES: SERVICE MEANS MORE. A basic shift in manufacturer-dealer relations is in the making. p. 41

NBC DRESSES RADIO FOR LEISURE . . . with weekend package show, puts flexibility into its ad policy. p. 44

THE MARKETS:

BREAKING THROUGH AGAIN. But market technicians aren't sure of major rise as industrial stocks hit new high. p. 158

ACCEPTANCES: FED'S NEW TOOL. Initial purchase wasn't large, but it signifies efforts to expand trade. p. 159

PRODUCTION:

MAKING DIRT STICK TOGETHER. Chemical firms come to aid of farmers and construction men with new sprays. p. 76

CONCRETE GOES AUTOMATIC . . . as pushbutton mixer makes its bow. p. 80

NEW PRODUCTS: p. 86

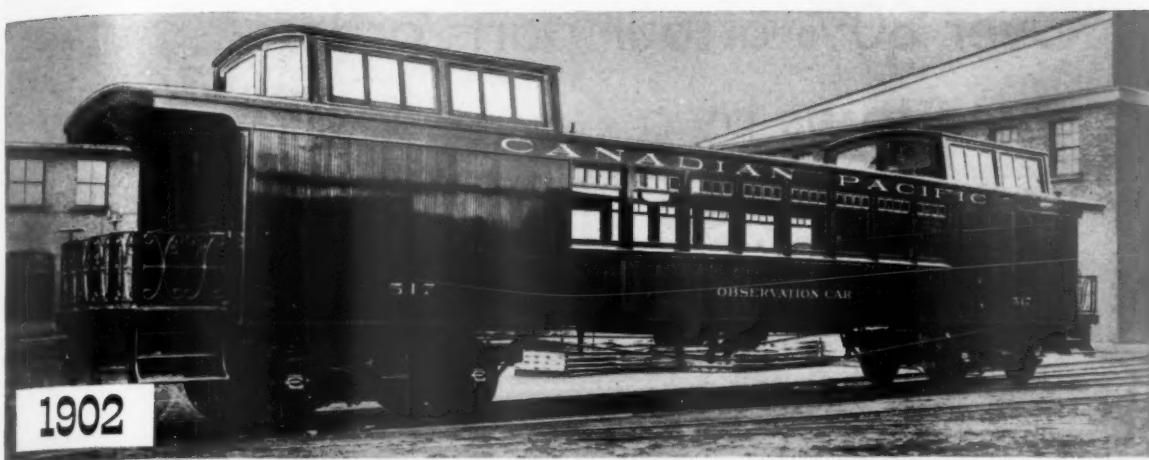
RESEARCH:

VACCINE FOR POLIO: THE PROBLEM NOW IS PRODUCTION. Finding monkeys, people, equipment are difficult enough to threaten a real scramble. p. 136

PUTTING \$20-MILLION ON ICE. A quick little job of research saves building a big dam. p. 143

WHAT IT'S ABOUT:

IS IT LOOPHOLE OR PENALTY? No one quite agrees on what a capital gain is or how to tax it—but Treasury keeps trying. p. 104



Practical and popular. Car No. 517 was an immediate success when put into service by the Canadian Pacific Railway in 1902. The road is adding 36 sleekly beautiful stainless steel dome cars to its fleet. The Budd Company of Philadelphia, Pa., has produced over 2250 all-stainless steel passenger cars, including scenic dome types.

How "new" is the Scenic Dome car?

Not quite so new as you might think! Some long-forgotten genius—probably inspired by the cupola carried on cabooses—conceived the scenic dome passenger car about 1900.

The first model was an elegant creation of solid mahogany and gold leaf. But compare it with today's deluxe streamliner, built of chromium-nickel stainless steel.

Old No. 517 rolled out of the Canadian Pacific shop in 1902—it had to be scrapped in 1913, after a life of only 11 years. By contrast, modern all-stain-

less steel passenger cars have given over 20 years of daily service and still show no signs of deterioration.

The high strength-weight ratio of properly designed cars of nickel-bearing stainless steel, permits substantial reductions of bulk and deadweight—*without any sacrifice of strength or safety*. What's more, stainless steel containing nickel effectively resists the corrosive conditions met in everyday railroading.

The use of nickel-bearing stainless steel in railway cars is just one more

proof of the value of nickel as an alloying agent. In general, nickel strengthens and toughens other metals and imparts to them added corrosion-resistance.

If you have a problem in which corrosion, high or low temperatures, stresses or fatigue are troublesome factors, let's talk it over. Two minds are always better than one, and we may be able to help you find out how nickel or a nickel alloy can solve a trouble-some problem for you.

Write for... List A of available publications. A simple form makes it easy for you to outline your problem.



Nickel Alloys Perform Better Longer

THE INTERNATIONAL NICKEL COMPANY, INC. 67 Wall Street
New York 5, N.Y.

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Y? No
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Treas-
.p. 104

6, 1955

"Over 80% of our parts orders come to us by Long Distance telephone"

Whayne Supply Co.
Louisville, Ky.



How much does tractor "downtime" cost on the job?

"It's been estimated that there is a loss of \$100 an hour on the big models," reports Whayne Supply Co., Caterpillar Dealer for Kentucky and Southern Indiana. "Time is money in our business. We look to the Long Distance telephone as our chief method of saving time."

Over 80 per cent of Whayne's parts orders come in from customers by Long Distance. In rare cases, where a part is temporarily out

of stock, Whayne telephones other sources of supply within 300 miles *at no cost to its customer.*

By using Long Distance, Whayne builds new equipment sales as well as its parts business. Customers know it backs up its products with the fast, reliable service which is so important to them.

There are many ways to make the telephone on your desk one of your most valuable, and lowest cost, sales aids.

If you would like a telephone company representative to stop in and explain them, call your Bell Telephone Business Office.

LONG DISTANCE RATES ARE LOW

Here are some examples:

Waterbury, Conn., to Providence	50¢
Des Moines to Minneapolis	85¢
Louisville to Cleveland	\$1.00
Indianapolis to Atlanta	\$1.15
St. Louis to Houston	\$1.40

These are daytime Station-to-Station rates for the first three minutes. They do not include the 10% federal excise tax.

CALL BY NUMBER. IT'S TWICE AS FAST

BELL TELEPHONE SYSTEM



Atomic Power: It's in Business

- Private companies can now apply for licenses in atomic fields; AEC issued the rules this week.
- Four groups are ready to go ahead on subsidized power reactors, and two companies on their own financing.
- The first wholly private reactor may be a late entry; Westinghouse just announced a materials testing reactor to be built near Pittsburgh.

For the commercial atomic industry, this was the week the dam broke.

• The Atomic Energy Commission issued its first set of regulations for purely commercial uses of atomic energy. The rules came nearly a year after Congress amended the law to allow a private industry to exist. They also came a full month before anyone had expected them—so great has been the pressure from industry for action.

• AEC began processing its first batch of four applications for clearance to build power reactors, mostly at utilities' expense but with some AEC subsidy.

• Westinghouse Electric Corp. announced plans to build a \$6.5-million materials testing reactor at Blairsville, Pa. If it gets operating on schedule within two years, it will be the nation's first reactor wholly owned by industry.

Thus the newborn atomic power industry moves out from under the government's wing, to go its own way as management directs.

I. AEC Rules

AEC's new code, effective about a month from now, is no mere lowering of the security barrier to let private industry have a junior partner's share in commercial atomic development. It is a full opening of the door to atomic business, limited only by the bounds of security and the public safety. Private companies will be licensed to operate atomic plants much as an airline is licensed to serve the public as a common carrier.

AEC will need to know exactly what's to be done, who's to do it, and how. But the businessman who can meet the standards will be free to ex-

ercise a lot of his own initiative and judgment in going into commercial atomic power.

• Requirements—AEC will continue to own all atom fuel, leasing it out as needed. An operator will have to pay for what's burned up or lost. He must also keep strict records, allow AEC inspection at any time, lock up all classified data borrowed from AEC, and meet rigid criteria for protecting the public's health and safety.

In return, he will be able to:

- Build nuclear power plants and operate them for profit. His real payoff will come when atomic power gets competitive with power from conventional fuels. That's some time off.

- Hold a license of up to 40 years, with assurance of fuel to keep his plants operating.

- Licenses—AEC offers several kinds of licenses to fit various purposes:

Research and development. At this stage of the game, this is what most companies, colleges, and other groups will want. It lets them prove out and improve power reactor technology, with AEC subsidy in some cases.

Commercial or industrial. Such a license allows a company to engage in a strictly commercial venture, in the power field or some other application of fissionable materials (some companies are already interested in fabricating fuel elements). Before such a license can be issued for, say, a power plant, the applicant must prove to AEC that the plant is close to competitive with conventional power sources in the area. So far, AEC has recognized no such power reactor. AEC can't subsidize this kind of plant.

Operator's. These licenses are needed by the men who actually run atomic

power plants, from supervisors down to the men who turn valves.

Fuel. When a company applies for its plant license, it must also apply for a license to use AEC's fuel.

• **Exploring**—License applications must contain immensely detailed statements that presuppose some experience with atomic energy. For businessmen who aren't familiar enough with the subject to make such detailed statements, AEC offers several avenues for exploration. A company can sign a contract, binding itself to AEC rules, and get access to what has been done in the reactor field.

• **Too Much AEC?**—While the rules were still being written, members of the Joint Atomic Energy Committee sharply criticized AEC. They contend that AEC has dragged its feet on carrying out the provision of the new atomic energy law that all possible reactor data should be taken out of security classification. The committee is going to call AEC on the carpet again soon to spur the declassification program.

The committee will also take a close look at the cooperative power reactor projects in which AEC helps to finance plants. Members say AEC has tried to assume too much management responsibility by trying to talk industry out of building types of reactors whose economic possibilities are doubtful. That's for industry management to decide, committeemen say.

II. Guinea Pigs

A big factor in springing the new licensing regulations right now was the mounting pressure on AEC industry.

Four groups met AEC's deadline for projects to demonstrate the commercial possibilities of various reactor designs, with AEC covering part of the cost. Each of the four calls for a different type of reactor (BW—Feb. 12'55, p108):

- Nine utilities belonging to Atomic Power Development Associates, a group of 25 utilities and eight engineering, construction, and manufacturing companies, plan a 100,000-kw. breeder reactor for the Detroit area (BW—Mar. 19'55, p29). This unit would cost about \$45-million, or \$450 per

kilowatt, exclusive of electric generating equipment.

• Another group wants to build a 180,000-kw. boiling-water reactor in the Chicago area.

• Yankee Atomic Electric Co., a New England utility group, proposes a 100,000-kw. pressurized water thermal converter using metallic fuel, to be built near the Deerfield River in the northwest corner of Massachusetts. This would cost about \$25-million, or \$250 a kilowatt.

• Consumers Public Power District of Columbus, Neb., wants a 75,000-kw. sodium graphite reactor of the type that North American Aviation, Inc., has been running at the University of California.

These proposals add up to 455,000-kw. of nuclear-electric capacity at a cost of \$150-million. The sponsors are willing to cover \$120-million to \$135-million of this if AEC will come up with the rest.

In addition, Consolidated Edison Co. of New York has asked for a license—without government aid—to build a 250,000-kw. modified pressurized water reactor at a cost of about \$55-million (BW—Feb. 12 '55, p100).

And now comes Westinghouse with its plan for a materials testing reactor, also at its own expense.

III. Westinghouse

The Westinghouse project signals an entirely new turn in the growth of a private atomic industry. For the first time, a big supplier sees enough profitable business ahead to warrant the spending of millions of dollars on its own initiative, for its own benefit in research.

Westinghouse is loaded with military work—two more submarine power plants and one for a capital surface ship for the Navy. It can expect more naval contracts, too. To test the components for these units, Westinghouse can use AEC's facilities at Arco, Idaho, but it has to stand in line—the Arco materials testing plant is overloaded with demands.

Thus, in building its own materials testing reactor, Westinghouse is protecting its lead in naval propulsion. Even more significantly, it is preparing for the day when it can sell electric power reactors to utilities as readily as conventional stuff. Traditionally, the utility industry considers a new piece of equipment as "accepted" when it is going into 10% of the new plants being built. At that point, everyone starts ordering. That's the point Westinghouse wants to be ready for.

• **What It Does**—Aside from Arco, there's no other materials testing reactor in the country. Yet such a reactor is indispensable for trying out fuel ele-

ments, coolants, and reactor components. A limited volume of simple testing can be done at Hanford, Wash., and some has been done in Canada's Chalk River reactors, but MTR capacity is generally regarded as the biggest bottleneck in nuclear power progress today.

The Westinghouse MTR at Blairville, 40 miles east of Pittsburgh, will put out about 10,000 kw. of heat energy, though it won't be tied to a turbine and generator. It will be housed in a vapor-tight steel shell, with a hot lab and an office building nearby.

Investigating the Antitrusts

Democrats are leading Congressional committees in an attack on Administration policies. Meanwhile, Justice Dept. is tightening administration of the law.

Half a dozen Democratic investigations are staffed and set to go with an all-out attack on the antitrust record and enforcement policy of the Eisenhower Administration.

The drive that will set off the Congressional hearings will come largely from the lawyers and economists who will advise the committee members and run the investigations. A dozen or more of these committee staffers are already on the job.

Most of them have long experience as antitrust investigators and prosecutors for either the Federal Trade Commission or the Justice Dept.

• **Ready for Tilt**—The Republican chiefs of the Justice Dept. and the FTC know what's coming—and they're preparing to meet it head on. Top aides in both agencies are now devoting almost full time to preparations for the tilt with the Democrats. They think their antitrust record is good, and they're ready to administer the law even more firmly to demonstrate it.

Democrats don't agree that the prime force behind their plans is politics. They say they're out to do for Congress what Atty. Gen. Brownell's committee of experts tried to do in its two-year study of antitrust law and policy (BW—Mar. 5 '55, p31). But the Democrats say that Brownell's group looked only at the technicalities of the law and court decisions—whereas they want to learn whether the law, and Republican law enforcement policies, are equal to today's business conditions—especially to the current wave of mergers.

• **Just the Beginning**—The hearing before Sen. Sparkman's Small Business Committee on the report of the Attorney General's National Committee to Study the Antitrust Laws will be only a single part of the onslaught.

Of the committees now in the field you can expect the brightest fireworks from Rep. Emanuel Celler's House Judiciary Committee on monopoly and antitrust. Celler is a free-wheeling antitrust.

• **Experienced Antitrusts**—Celler's counsel, Herbert N. Maletz, spent five

years in the Justice Dept.'s Antitrust Div. and served a term as general counsel before entering private practice in Washington. Committee co-counsel Kenneth R. Harkins resigned from the Antitrust Div. of the Justice Dept. to take the Celler staff job.

Rep. Wright Patman's Small Business Committee will hit hardest at the FTC's enforcement of the Robinson-Patman Act against price discrimination. Patman has as staff director and general counsel, Everette MacIntyre, who was for years chief of the Investigation and Litigation Div. of FTC's old Anti-Monopoly Bureau.

• **Senate's Part**—Over on the Senate side, Judiciary's subcommittee on antitrust and monopoly legislation is set with a purse of \$200,000 and ready to make a full-scale study of all antitrust law and enforcement. The subcommittee is headed by Judiciary Chmn. Harry Kilgore (D-W. Va.) and he's backed up by such stern antitrust as Sens. Kefauver and O'Mahoney and the Republican maverick William Langer.

Another Senate Judiciary subcommittee on patents, trade-marks, and copyrights—is headed by Joseph O'Mahoney (D-Wyo.).

The Interstate & Foreign Commerce subcommittee on antitrust has a \$200,000 budget for inquiries into such varied fields as gas and utilities, and the radio and TV industries.

• **Behind the Push**—Democrats in both Houses are relying heavily on another well-known antitrust figure, economist Theodore J. Kreps. He is helping the House and Senate Judiciary and Small Business Committees with information, advice, technical data, and economic memoranda.

Some Republican critics say Kreps is the real brains behind the whole Democratic antitrust onslaught.

But Kreps is probably best known for his work as economic adviser with the Temporary National Economic Committee, which created much controversy in antitrust in 1939-1940. In Kreps's role in the new investigations, critics think they see the beginning of a little TNEC on the Hill.



ROBBERY at Chase Manhattan's Woodside branch, involving \$305,000, turns the . . .

Spotlight on Bank Holdups

Last week, four men held up the Woodside branch of the Chase Manhattan Bank Co. in Queens, N. Y. (picture), wadded 10 employees into a 5 ft. by 6 ft. vault, and skipped off with some \$305,000—including a \$200,000 Bulova Watch Co. payroll.

This robbery, one of the biggest in New York history, brought to light some startling statistics on robberies, and focused the problem in the minds of bankers, insurance companies, and law enforcement officials.

J. Edgar Hoover, director of the Federal Bureau of Investigation, revealed that there were 307 bank robberies last year, just over three times the number in 1950, twice the number in 1952. For the first eight months of fiscal 1955, ending Mar. 1, there were 222 robberies. In the same period of 1954 there were 168.

The rise, Hoover said, had reached "feverish proportions," and FBI field men swung into a nationwide, year-long series of conferences designed to advise bankers and police on how to stem the tide of robberies.

• **Amateurs at Work**—Hoover himself outlined the reasons for the increase: "The crime itself has changed perceptibly in its pattern. During the gang era of the 1930s, highly organized and seasoned veterans of crime hand-picked and victimized institutions most susceptible to attack. Today, in sharp contrast, every banking-type institution is a potential target. The bank robber list today reflects the prominence of the lone robber—and the amateur. The crime may be a spur-of-the-moment act

in which little or no planning is involved."

• **Losers**—The insurance companies, which stand the losses on most robberies, feel that while the current epidemic doesn't match the days of Pretty Boy Floyd and Dillinger for viciousness and shrewd planning, the amateurs can be worrisome and they aren't convinced that the banks can't take more vigorous steps to prevent holdups. Back in the 1930s, the insurance companies finally refused to write policies on banks that wouldn't install time locks on their vault and cut down the supply of counter cash floating around.

So far, insurance rates generally haven't reflected the steep rise in robberies. But spokesmen for the industry say that if the trend in holdups continues, coupled with the hefty number of forgeries and embezzlements, rates will undoubtedly go up. The Surety Assn. of America has a special committee currently studying the rates on bankers' blanket coverage bonds, but the decisions to raise rates must come from the individual companies themselves.

• **Toy Gunmen**—Bankers themselves seem to agree that it is the little-experienced amateur who is chiefly responsible for the rise in stickups. "We can't do much about the determined crowd of old pros—like the ones at Woodside. They will succeed more often than not. But now everybody's trying to get into the act."

A prime case in point was an attempted robbery on the day after the Woodside job. A 17-year-old boy, who

had read about that holdup and was heartened by the success of the pros, attempted to rob a Coney Island bank with a toy plastic pistol. He got \$35, but was caught before he could escape. This is what frightens the bankers—one successful robbery rouses the confidence of a lot of greenhorns.

• **The Pattern**—A recent FBI survey of 100 bank robberies picked at random throughout the country give some revealing insights into the modus operandi of the modern bank robber. Among other things, the survey showed that:

- "While the trend may be away from robbers assaulting . . . bank employees, there are enough instances of violence to certainly deter any foolhardy action on the part of employees or customers." In 75 of the 100 cases, real guns were used, 13 robbers faked guns, and 11 others used toy pistols.

- Professionals usually choose lunch hour or closing hour to pull their jobs.

- Favorite targets seem to be small town banks, where inadequate police protection lures the hoods, and small outlying branches of big city banks.

The actual schemes of operation vary widely. There are the two pros who, in the manner of the famous Willie Sutton, cased a job in an eastern city in 1952 but didn't strike until two years later. They observed such things as the fact that the bank messenger carried money sacks in the hand he would need to draw his gun with. They hit the bank for \$35,000, were captured six weeks later.

In contrast to these cautious, long-range schemers is the fellow who, in the throes of financial despair, borrowed a gun with which to commit suicide. Riding past a bank in a taxi, however, he switched signals. Instead of doing away with himself, he told the taxi to wait, robbed the bank of \$1,000, found himself in jail 50 min. later.

• **Dos and Don'ts**—In its countrywide conferences, which are closed to the public, the FBI will stress elementary preventive techniques to the bankers. For instance, these are some of the things that bankers could do to cut down on the chances of attracting holdup artists:

- Test all alarm devices regularly.
- Be wary of suspicious looking characters hanging around the bank. They may be the advance scouts casing the bank's physical layout, time schedules, etc.

- Keep cash in tellers' windows at a minimum, and have at least one bundle of cash in every cage sequenced and recorded by serial numbers.

- Make employees remove all currency and securities whenever they leave their counters.

- Avoid unnecessary routine in daily operations—run staggered lunch schedules, let different employees open

the bank in the morning, don't have any set time for messenger deliveries of cash and securities.

• Investigate the background of every employee thoroughly before hiring him.

"By making the offense more hazardous to the criminal we can reverse the trend of this vicious crime," says Hoover.

• **Foilings the Yegg**—Personnel can play a big role in protection, too, as was seen in Manhattan in the last 10 days. On two different occasions, women tellers in branches of the Manufacturers Trust Co. thwarted lone holdup men. One woman, when handed a note demanding her cash, simply walked away from her counter, leaving the perplexed crook gaping. The other teller sounded the alarm and threw herself to the floor of her cage, causing the bandit to flee.

In some states, preventive action is being rigidly inspected. In Kansas, for instance, the state Bureau of Investigation, working with state and local police, has inspected nearly every bank in the state, made recommendations on precautionary measures. Missouri and Oklahoma also have embarked on a state-wide crackdown on bank robbers. "But," says one insurance agent, "Texas hasn't seen the same kind of jump in robberies as those other states. That's because they have the best prevention of all—a \$5,000 reward to anyone who legally kills a bank robber."

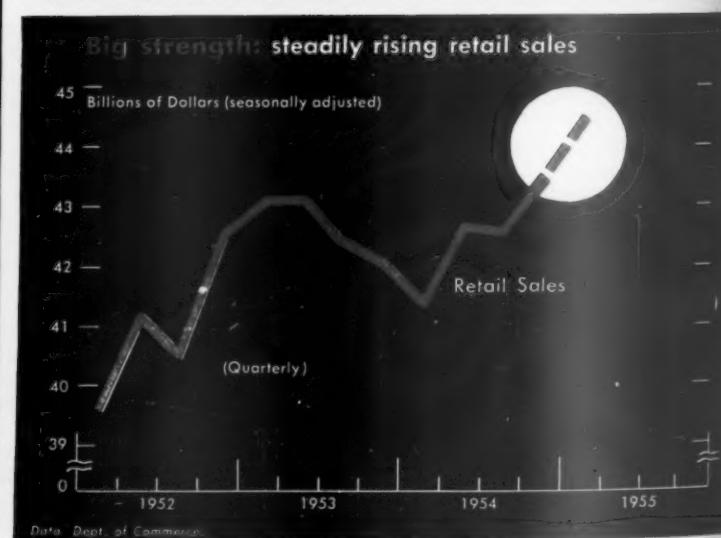
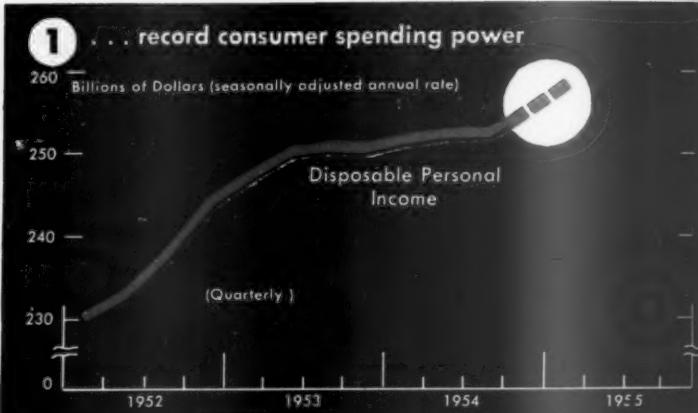
• **New Teeth**—The Woodside holdup has puffed up the campaigns to bolster security. None of the 35 Queens branches of the Bank of the Manhattan Co., recently merged with Chase National Bank (BW—Feb. 12 '55, p116), had either special guards or alarm systems. This undoubtedly made the job easier for the robbers. Yet up to the time of the most recent rash of robberies at these Queens branches—the Woodside one was the third within a month—American Surety Co., which is co-surety with Aetna Casualty Surety Co., says that Bank of Manhattan didn't have a noticeably worse loss ratio than did Chase, which was protected completely both by alarm systems and guards. But the company grants that the latest robberies, which cost them over \$330,000, could result in a hike in Chase Manhattan's rates on its \$5-million blanket bond policy.

Chase Manhattan currently is conferring with police and the FBI on measures to prevent further robberies. The precinct police are guarding all banks in Queens at present, with a weather eye on the Chase Manhattan branches. It is generally believed that Chase Manhattan will upgrade the Queens branches to the security level of the Chase branches, with silent, central alarm systems and armed guards.

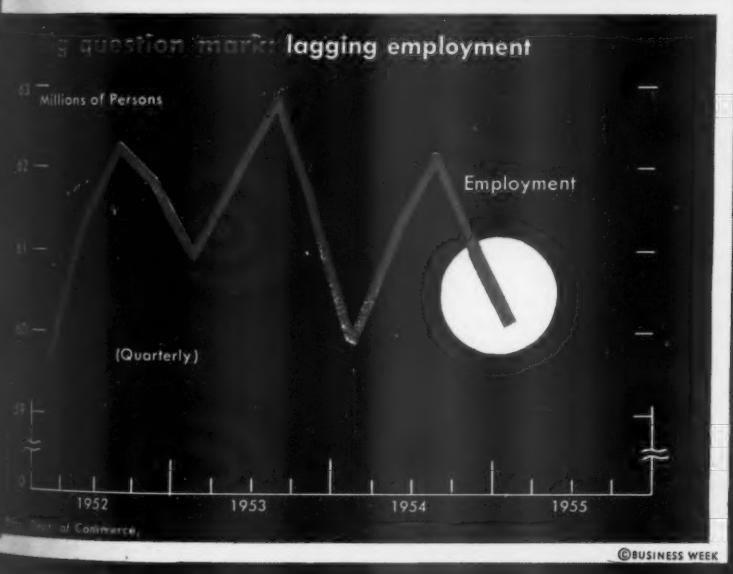
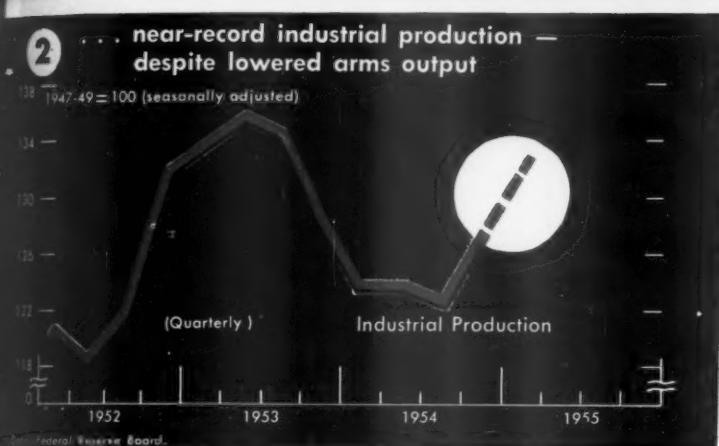
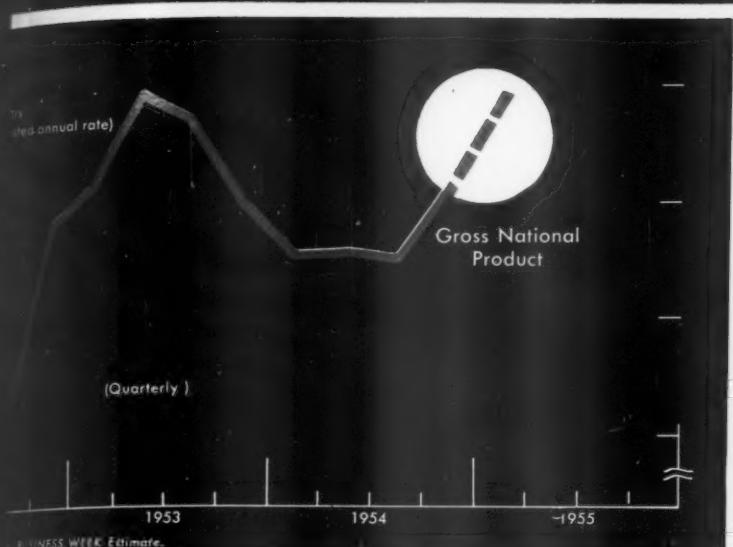
Spotting a Dazzlin' ir

The nation's economy set a new record

Sparked by . . .



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Court Refuels . . .

... natural gas fight by upsetting Oklahoma law in favor of federal control; spotlight is on Congress.

The U.S. Supreme Court stepped back into the natural gas fight this week with a ruling that riveted down federal price-regulation authority, set off a new chorus of howls from independent gas producers, and promised repercussions in state legislatures and in Congress.

What the high court did was to upset an Oklahoma minimum price law on gas destined for interstate commerce and sold to interstate pipelines. The court said its decision last year in the Phillips Petroleum Co. case (BW-Jun.12'54,p29) established federal jurisdiction over such sales, thereby removing their price regulation from state control.

Under the Oklahoma law, specific prices set by a state commission applied to natural gas from the big Guymon-Hugoton field that was sold to interstate pipelines for resale across state lines.

The court's new ruling is bound to enter into Congressional consideration of proposed legislation to exempt gas producer prices from federal control.

• **Reaction**—Whatever effect it may have on Congress, it drew immediate blood from some of the independent gas producers. There was talk of federal "invasion" of state rights and of "killing incentives."

One immediate question is this: Will producers have to make refunds to pipelines where the state-set minimum price is higher than the price called for in the original long-term contracts? Some contracts were originally made at figures reported as low as 3¢ or 4¢ per 1,000 cu. ft. The latest Oklahoma minimum price was 9.8¢.

Producer executives were a bit wary but some said they "wouldn't be surprised" to find pipeliners asking for rebates. However, producers are "sitting tight."

• **Other States**—Kansas, the only other state with a minimum price law on natural gas, was also sitting tight. One Kansas official expressed doubt that Kansas price regulations were in the same category as Oklahoma's, because, he said, Kansas regulations concern only raw gas at the wellhead.

In Texas, however, the ruling is likely to have an impact on a so-called "economic waste bill" that has some price-fixing implication that is now pending in the legislature. Many oilmen feel the bill was just about dead. The Texas

Independent Producers and Royalty Owners Assn., however, argued that it is not a minimum price bill but constitutes permissible conservation legislation.

• **Congress**—In the long run, the ruling put the spotlight on Congress and the bill introduced by Rep. Oren Harris (D-Ark.) to exempt gas producers from federal control.

The House Commerce Committee has resumed hearings on the bill but is moving slowly. In the Senate, committee hearings haven't even begun, and there is considerable doubt of the bill's chances this session. One complicating factor: Pres. Eisenhower hasn't personally endorsed his Cabinet fuels policy committee's stand for removing controls on producers.

was experimenting with the idea of stabilizing vertical take-off planes by shifting the pilot's weight. Zimmerman worked for Hiller for about a year, but when expenses got out of hand the project was dropped.

However, the idea intrigued some scientists at the National Advisory Committee for Aeronautics who kicked it around for a few years. In 1953, a development contract came back to Hiller by way of ONR. This time the platform got off the ground.

• **Child's Play**—The controls on the "flying manhole cover" are extremely simple. There's a throttle, a temperature gauge, and one other control that has not been disclosed. The pilot stands in the center with his feet strapped in place, his hands on a light railing. Pilot Johnson says it's so simple that "I'd let my kids fly it."

The present platform, which the developers won't even dignify with the term prototype, is about 6 ft. in diameter, 30 in. high. It looks like an inverted stewpot or a manhole top. Although no details on cost have been released, it certainly doesn't look expensive. Two men can carry it, so it can't be very heavy.

• **Air Lift**—Lift is provided by two counter-rotating fans that make up a rudimentary jet engine known as a "ducted fan." This is like an office fan, with a casing around it to concentrate the push of air. Air is sucked down through holes in the floor of the platform and forced out the bottom. The shape of the platform helps provide stability of the sort you get in a thrown discus.

The ducted fan principle, which is intriguing to the layman, has apparently been kicking around aeronautical circles for many years. An Italian jet built in 1940 by Caproni-Campini used the principle. Other forms of jet propulsion, however, came along to provide the greater thrust that has been the primary goal in fighter and bomber aircraft. The growing need for simplicity of control and vertical take-off has resurrected the idea. Meanwhile, the state of the art has progressed so that it may soon be practical.

The fans are powered by two engines, one for each fan, that together develop 100 hp. This is enough, and a little more, to lift the platform with the weight of one man. Arthur Robertson, who has been directing the work at Hiller, says: "We weren't trying to set any altitude records. We just wanted to get it off the ground and prove the feasibility of instinctive control. And we've done it."

The present 8-ft. ceiling on test flights is imposed by safety considerations. Now the bug in the invention is that if one of the engines fails, the platform crashes like a ton of bricks.



Flying Manhole Cover

Everybody is trying to produce a simple-to-operate air courier vehicle—something that would do to the Jeep what the Jeep did to the horse. And of course, anyone who succeeds may find he has solved the problem of the personal airplane.

The latest entry in the sweepstakes is the weird-looking contraption (above) built for the Office of Naval Research by Hiller Helicopters. It's called a "flying platform" and, oddly enough, it does fly—though no one expects it will reach commercial production in its present form. Pilot Phil A. Johnson has been scooting around the fields of Palo Alto, Calif., at altitudes from 8

in. to 8 ft. But more significant than the fact that it flies is its simplicity.

• **Natural Leaning**—Johnson guides the platform by leaning his body in the direction he wants to go. Hiller was trying to develop a way to control aircraft by instinctive reflexes. This is a throwback to the Wright Brothers' era, when you shifted your weight as part of the controls and anyone who had a good sense of balance and a lot of nerve could be an aviator.

Stanley Hiller, president of Hiller Helicopters, became interested in the idea of instinctive control in 1947. He met Charles Zimmerman, an aircraft engineer from Bridgeport, Conn., who

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Families may skimp on clothes for the grown-ups, but they spend freely on the children. For apparel merchants, it added up to a season for . . .



Easter Finery: Second Best Year

Suppose the weather over a large part of the country had not been so nasty and raw. Would Easter apparel sales have been better?

Suppose Easter had come a week later, as it did last year.

If auto and appliance sales (next page) hadn't been soaking up money—would that have made a difference?

• **Second Best**—There are no definitive answers to these questions, but retailers have been asking them this week. For apparel sales in general, though they could hardly be called poor, could have been better.

Retailers in city after city where BUSINESS WEEK surveyed Easter sales reported that business was not so good as 1953, though better than 1954. You can't call the second-best year in history bad, but some retailers felt a little cheated, as these reports show:

Pittsburgh: "Nobody is getting excited around here about Easter sales."

Columbus: "Slightly—but not much—ahead of last year."

Miami: "Quite good."

Detroit: "The possibility of a strike dominates the scene."

Rochester, N. Y.: "Near or equal to last year."

St. Louis: "Clothing people are not happy with Easter."

There were much brighter reports from San Francisco, Minneapolis, Atlanta, and some other areas, but the highest estimate for an increase over last year was 10%.

• **Whipping-Boys**—Why didn't the clothing business do better?

The early Easter gets some of the blame, since a week more might have pushed buying into warmer weather. But there was a counterweight this year in the later tax deadline, which meant that people weren't so pressed for cash at the crucial moment.

The bad weather undoubtedly deserves some blame. But the weather wasn't bad everywhere. The clue to the real trouble in apparel lies in the over-all figures for retailing.

• **Sales Shifts**—Total retail sales for the first three months of the year came to

\$40.7-billion, a gain of \$2.7-billion—or 7%—over the same period last year. This is a healthy gain, but the significant thing is that it's largely due to one thing—autos. Take autos out and the gain for the rest of retailing was only 4%. And a considerable portion of this 4% gain was due to other hard-goods—furniture and appliances, building materials and hardware.

Apparel, on the other hand, showed only a 2% gain in January, no gain in February, then shot up to a 15% gain in March. But the March gain is due in large part to the earlier Easter.

• **Fight for Dollars**—Though some retailers look for the biggest year yet in volume of apparel sales, many cast an apprehensive look over their shoulders at Detroit and the cars that are pouring out of the auto factories. Said a San Francisco merchant:

"I look out my office window and see that every other car is a new one, most costing over \$3,000. I wonder if this will catch up with me in the fall, which is a time for more expensive gar-

ments, for fur coats and fine evening dresses."

He was voicing a complaint that has been on the lips of apparel merchants for the past six years or so. Apparently there is no change in the familiar post-war buying pattern of U.S. consumers: They persist in spending an even smaller share of their money on clothing. The consumer puts his money first into his home, auto, travel, and leisure; after that he spends some money on his own back.

There is also the popularity of casual clothes, which means that the consumer gets away with fewer, simpler, and more rugged garments. "People are even wearing casuals to church," says a Chicago merchant.

• **Crave Quality**—People may make fewer purchases at clothing stores, but when they buy they seem to want quality. On the whole, stores are carrying more expensive price lines, and the higher-priced lines got the play this Easter. In San Francisco, for example, a high-fashion store notes that the average sale in the 1954 Easter season was \$13.56, this year was \$18.01.

Such a shift in the average sales unit could mean that:

- Obviously, sales are fewer but bigger—total buying increased little.
- The middle-income class is upgrading into the quality apparel field.
- The lower-income group may

have been pinched down as an element of the total market; it was the group most hurt by wage losses during the recession. A supporting fact is the relatively poor business reported by lower-price stores.

• **Children First**—No matter how hard the family pocketbook is hit by loss of wages or by other demands for spending, people are willing to shell out freely where their children are concerned (picture, page 31). A Greensboro (N.C.) storekeeper nicely summed up the situation this Easter with this comparison:

"The old, old pattern prevailed. In infants' and children's wear, business boomed; in women's wear, it was only good; in men's wear, business was nothing to brag about."

A Philadelphia merchant added this: "Seems that children get new clothes every year, no matter what, and the birth rate keeps increasing the number of customers in our children's department."

• **Luring the Male**—Not that manufacturers and retailers aren't trying to wheedle the adults into spending money on themselves. The best example of this is in the men's wear field, where a virtual revolution in style has taken place during the past few years—in hats, shoes, vests, shirts, and sports attire. This revolution has been accompanied by splashes of vivid color.

"If it keeps up," says one Midwestern

merchant, "the average man will look like a he-madam."

• **Riot of Color**—This Easter, the pastel shades were going strong in most places. In some few cities, retailers reported, as did one man in Chicago, that pink is "past its prime." But coming in behind pink is a whole spectrum of what one retailer called "soft colors"—aqua, heliotrope, mint green, yellow. One report from the West Coast is that this riot of color in regular dress shirts is restoring to some extent the sales balance between dress and sports shirts. In recent years, unit volume of sports shirts has passed dress shirts.

In suits, the big color again this season was charcoal, which plays counterpoint to the pastel shade of the shirts. A number of retailers note that the brighter the shirts get, the more subdued and conservative is the color of the suits. Some of them are disturbed by this trend. For many men, they say, a conservative suit can be an all-purpose suit. They want to see more variety in colors and patterns.

What troubles some retailers most, however, is that none of these style

changes seems to push up the overall volume of men's wear. One Denver merchant summed up the whole problem from the retailer's point of view with a talk before a luncheon club this week entitled, "After the Pink Shirt, What?"

• **The Women**—In women's clothes, it is fairly clear that the New Looks so far haven't made women want to throw away their old clothes and buy a new wardrobe.

In Chicago, neither the "A line" (narrow at top, broad in skirt) or the "H line" (the straight waist) style had any effect on sales, according to retailers. In Pittsburgh, merchants hope that the A line will make a splash by fall. In Minneapolis it did very well. Omaha reported it "the biggest thing since the Cherry Sisters played here," but Dallas said it "means nothing here." Phoenix did well with "modifications" of the A and the H.

Black went over big in Miami. "Dashing" colors were hot in Phoenix. Navy blue was important in Dallas. Minneapolis went for pink, black, charcoal, and the "new greens."

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Hardgoods: Racing With the Autos

The hardgoods boom is roaring along in a way that is surprising, considering the reason.

Furniture usually doesn't do such a wad of business at this time; it's doing fine. Appliances that normally sell when the weather gets warm—things like refrigerators, freezers, air conditioners—are already doing very well.

• **Way Ahead**—Here are capsule reports from a sampling of the big appliance makers:

• Norge (division of Borg-Warner Corp.): "Terrific" sales at factory level. Retail sales usually slump a little before Easter, and were off a few weeks ago, but have begun to pick up. A good second quarter is coming up.

• Kelvinator (division of American Motors Corp.): March factory sales were 38% ahead of last year.

• Frigidaire (division of General Motors Corp.): Major appliance sales at factory level up 25% from last year.

• General Electric Co.: Factory sales 25% over last year.

• Westinghouse Electric Corp.: Factory sales up 12% on major appliances. The company has to "back-order."

• Philco Corp.: "Substantial increase" in factory sales.

In part, these gains, like the boom in furniture, are dependent on the housing boom. There is a very direct tie today between appliance sales and building; you can see this in the reports from several makers that sales of electrical appliances through builders and con-

tractors are particularly good right now.

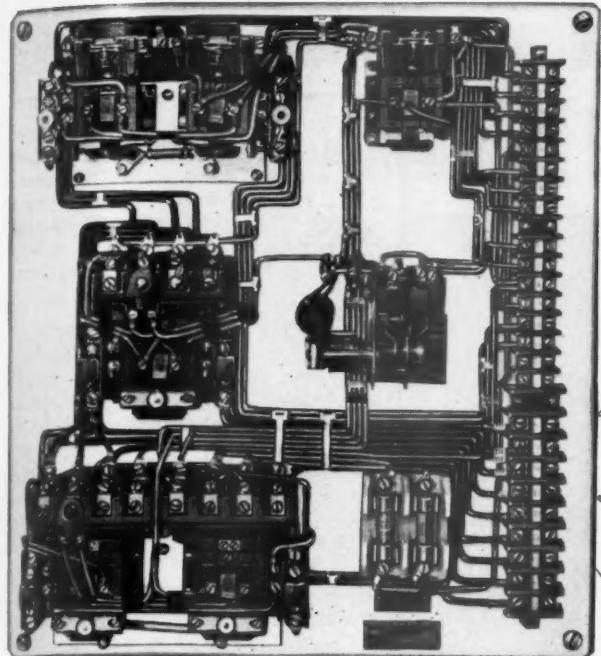
• **Phenomenal**—Automobile sales, of course, are doing phenomenally well. The latest Dept. of Commerce figures show that in March the automotive retailing group did a business of some \$3.3-billion as against \$2.7-billion in March a year ago.

Will the auto boom last? At the present rate of production and sales, this should turn out to be the biggest auto year in history. But many observers are worried about one thing: How much of the business today is being borrowed from the second half because of people's fear about the possibility of an auto strike?

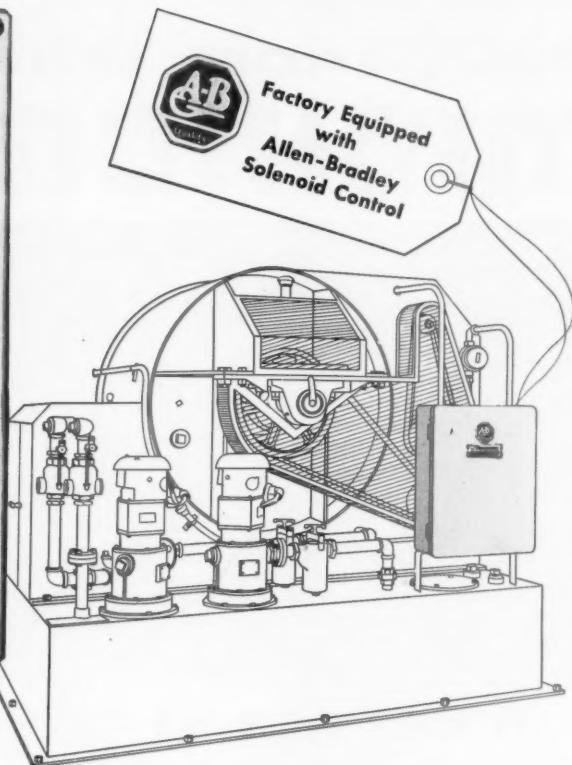
• **Appliance Worries**—There are some other worries in the hardgoods field. Some big appliance producers, though they pooh-pooh talk about overproduction, are plainly worried about it. Westinghouse frankly expects a "strong downward pull on prices" in the second half of the year because of heavy competition. There is some thinking in GE's Louisville major appliance center that the appliance industry may go the way of autos—in the sense that the biggest producers are expanding their share of the market.

A national retailer is worried about appliance sales in the fall.

"There's a buying cycle and a pay-for cycle," says a spokesman. "Last spring we were in the pay-for cycle; it lasted about seven months. Last fall saw the beginning of the buying cycle, which is still continuing."



Control panel used with "Washex" washer showing Allen-Bradley QUALITY switching and timing components mounted on steel back plate. These solenoid operated units have only one moving part and, therefore, are trouble free.



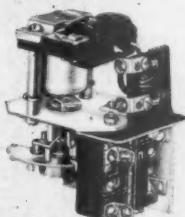
WASHEX WASHER

operated by an Allen-Bradley Control Panel

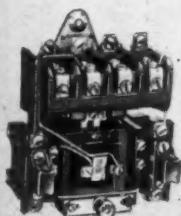
ALLEN-BRADLEY Trouble Free Control Components



Bulletin 700 Type BX universal relay. Has 4 double break contacts, either NO or NC.



Bulletin 850 motor-driven reversing laundry timer.



Bulletin 709 starter with two thermal overload relays.



Bulletin 800T master station with oiltight buttons.

This washer and dry cleaning machine, made by Washex Machinery Company of Brooklyn, N. Y., is automatically controlled by the Allen-Bradley control panel shown above. A Bulletin 850 motor-driven reversing timer in the center of the panel provides 2, 3, 4, or 6 motor reversals per minute.

The simplicity of design of all Allen-Bradley relays and starters assures trouble free and continuous operation. This is the experience of the hundreds of customers who have standardized on Allen-Bradley Quality control.

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BUSINESS BRIEFS

New SEC chairman will be J. Sinclair Armstrong, Republican commissioner who replaces Chmn. Ralph Demmler, who is returning to private law practice. Andrew Downey Orrick, 37-year-old San Francisco lawyer, has been named to fill the vacancy on the commission.

Up and up and up: The record construction rate accelerated still further in March. F. W. Dodge Corp. reports that contract awards in the 37 states east of the Rockies set a March high of over \$2.1-billion. That beat last February by 35%, and March, 1954, by 40%. Contracts for single family dwellings set the fastest pace, up 53% in a year.

H. B. Glover Co., Dubuque clothing maker that supplied the background for Richard Bissell's novel, *7½ Cents*, and the musical *Pajama Game* (BW-Jun. 5 '54, p68), is going out of business. Its epitaph came when F. E. Bissell, Glover president and father of the writer, was asked if he would like to have the last pair turned out by the 99-year-old company. "I don't wear pajamas," he said.

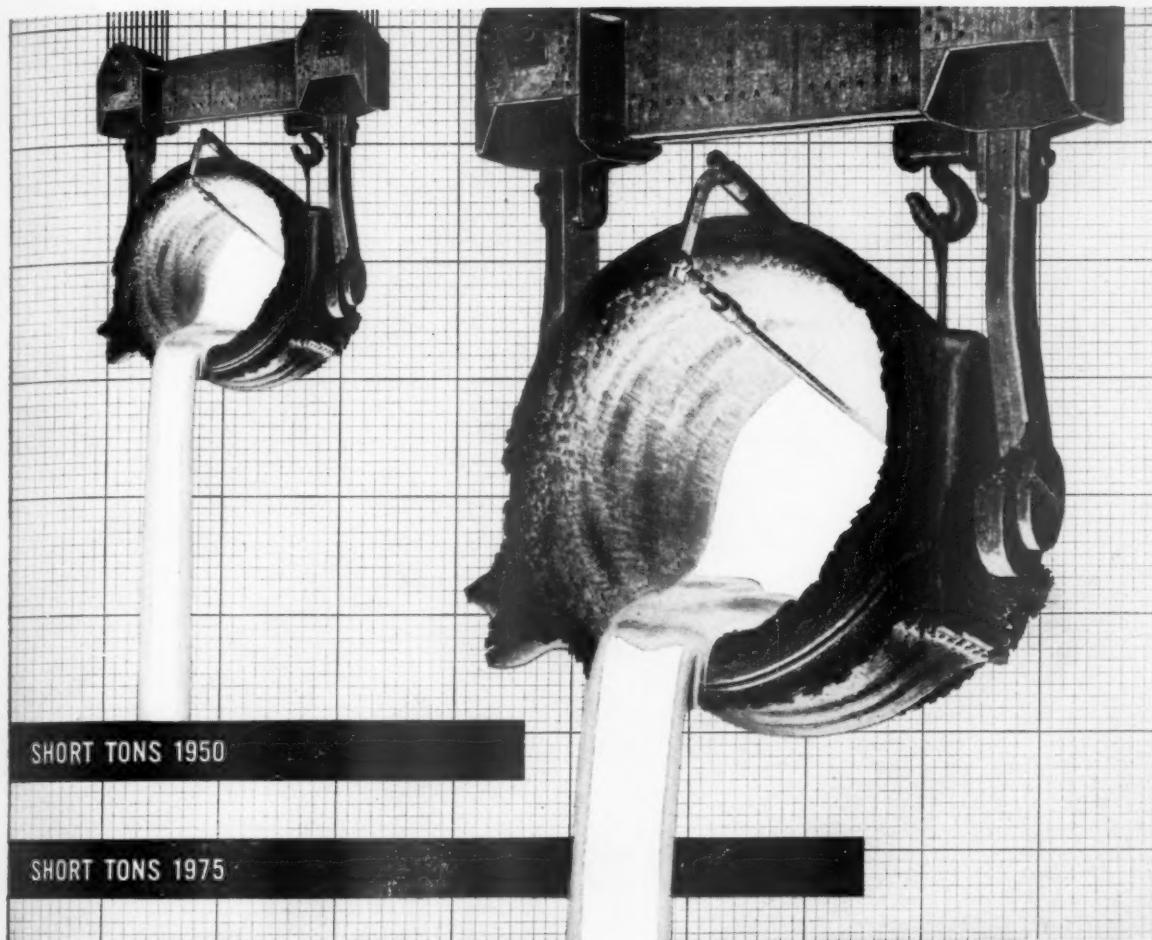
Ford's long-secret books are due to be at least partially revealed. This week, Executive Vice-Pres. Ernest Breech told New York financial writers, "I believe I can safely promise you this: Some time this year the financial and operating facts of the Ford Motor Co. will be made public."

February profits of Class 1 railroads were double the year ago figure, the Assn. of American Railroads reports. The Eastern roads spearheaded the advance, with earnings 16 times the earlier figure. However, return on investment for the 12 months ended with February was only 3.49%, compared with 3.88% for the year-before period.

Shutting up shop: The Defense Dept. says it is moving "aggressively" to get out of competition with private industry. The department reports it has discontinued, or listed for closing, over 70 operations that can be run by private business. All told, Defense is fixing a beady eye on over 1,000 of its own activities.

Factory employment has scored its biggest February-to-March gain in nine years, rising 164,000 to approach 16.3 million.

How many ladies, how many tons...in 1975?



According to an authoritative estimate*, annual demand for finished steel should swell from 68 million short tons in 1950 to 110 million short tons in 1975—an increase of 62%.

This estimate is based on a careful study of the needs of America's expanding population and suggests the enormous possibilities of growth for corporations in many segments of industry.

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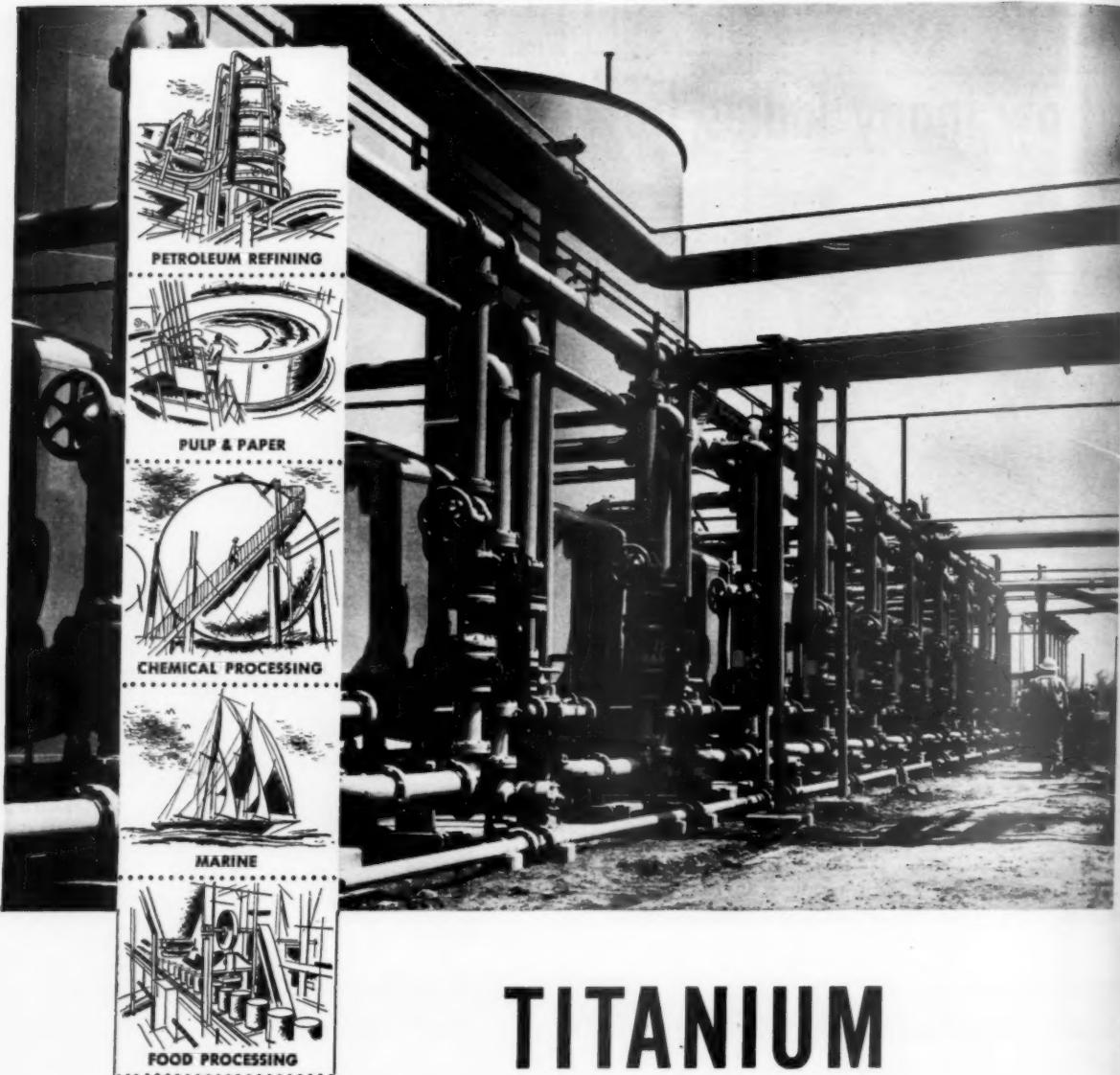
*Estimate taken from *A Report to the President by The President's Materials Policy Commission*

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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
APR. 16, 1955

A BUSINESS WEEK
SERVICE

Eisenhower's standing with the voters back home will be a big force in Congress over the next few months. Most of the President's program still is to be acted upon before Congress adjourns, probably in August. There's lots of controversy ahead, much of it involving business issues. So, what members of the House and Senate found out on Easter vacations is worth noting. Some impressions from Republicans and Democrats:

Eisenhower's popularity holds high. Many Democrats come right out and say that Eisenhower would win again if the election came tomorrow.

There's confidence on the business outlook. Republicans interpret this as confidence in the Administration. Many Democrats agree. The idea that this will be a record year is widely accepted.

Farmers still complain about prices. But even some of the backers of 90% of parity price props say there is no real demand at home for this high a level of government supports.

There are reservations on the Far East. Some members start by saying that the public isn't sure of the issues involved. Defense of Formosa itself has popular support. But the islands of Quemoy and Matsu are reported as something else again in the public mind.

Adlai Stevenson's stand reflects this. The titular leader of the Democrats has no question about protecting Formosa. He backs Eisenhower on this. His challenge is on the wisdom of fighting for Quemoy and Matsu.

Democrats will make this their party line. Party members generally accept what Stevenson said. Viewed against the backdrop of top GOP policy, the stand aims more at such men as Sen. William Knowland than at Eisenhower (BW—Apr. 9 '55, p25). The President has refused to commit himself on the islands.

Democrats are still reluctant to attack Eisenhower. Party chiefs in some states and in the national committee long have felt that strategy calls for an attack on the President himself as part of the 1956 stage-setting. Their logic, boiled down: It's hard to defeat a sitting President by shooting at the men around him. You need to tarnish the man himself. But the old rule of self-preservation also applies in politics. Individual Democrats will be slow to attack Eisenhower if the risk is loss of votes for themselves.

The pace in Congress will step up now. So far, Eisenhower has stayed on top in major issues disposed of to date—the Formosa resolution, which was an advance approval of whatever the President may be forced to do; extension of corporate income and excise tax rates, without the Democratic rider for an individual income tax cut; the big Congressional pay raise (which candidates will use against sitting members in some 1956 races); ratification of the German treaty.

The big issues pending include: aid for highway and school building; a higher minimum wage; the Democratic demand for 90% farm price props; foreign aid and the regular appropriation bills. On the money side, disputes will center on foreign aid and proposed cuts in defense spending.

The proposed hike in the debt ceiling will be pushed. Even with the substantial rise in the level of business, the Treasury says it won't be able

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
APR. 16, 1955

to run another year without a boost in the \$275-billion debt limit. In fact, revenue estimates for the current and 1956 fiscal years were based on the assumption of a business rise.

—•—
Exemption of natural gas from federal price control gets a boost out of this week's Supreme Court decision (page 29). The court held, in effect, that Federal Power Commission jurisdiction (established by the court in the Phillips case) shuts out the states.

The state conservation issue is raised. And what it means in terms of Washington pressures is an even bigger push to get FPC out of the price-fixing picture, so states can regulate sales of their own gas.

—•—
You will see a big political antitrust fight, run by Congress.

There's a smack of the old TNEC—Temporary National Economic Committee—in what's happening. Some of the pre-World War II experts are being brought back to help run the investigation (page 26).

The top issue: big business getting bigger.

—•—
Hoover Commission recommendations face tough going. An often overlooked fact is that this is not an Administration-controlled operation, but a special study of government functions by "independents."

Administration dissents on policy are high. Atty. Gen. Herbert Brownell didn't like the current report on quasi-judicial agencies, for example. Neither did he like the report on lending agencies. And Navy Secy. Charles Thomas is hot about surplus property handling. It's too early to appraise chances of the proposals in Congress.

—•—
Watch for Congress to look into proxy fights. The plan is to make this inquiry an offshoot of Sen. Fulbright's stock market investigation. Reports from the stock market hearing will be out shortly.

There's a demand for full identification of those buying up stock to win control of a company. The Fulbright staff is now receiving information on these struggles, such as the Avery-Wolfsen Montgomery Ward fight. The committee won't interfere in the Montgomery Ward struggle. This one has gone too far. The look-see will be in the nature of a post-mortem. But the committee can be drawn in on other control battles.

—•—
Note the record first-quarter housing starts—295,000 units, compared with 260,000 in the same 1951 period, the previous high. There's some concern that the boom is nearing the over-built point. But so far, there's no indication that credit terms will be tightened under Veterans Administration and Federal Housing Administration. Housing officials want to watch spring developments.

—•—
Congress is taking a look at election costs, which, like most other things, have been on the rise in recent years. Heads of both parties would like to see limitations on contributions and political spending raised. The present limits haven't amounted to much, since it is easy to get around them, legally. Whether or not Congress will act is uncertain. But figuring is that the 1956 campaign, which promises to be hot, will see spending well in excess of the estimated \$15-million in 1952.



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BUSINESS

MARKETING

Appliances: Service Means More

● General Electric has now let a cat out of the bag: more centralizing of warehousing and servicing.

● Manufacturers feel dealers are falling down on their service function and something must fill the vacuum.

● In big cities at least, it is clear that factory-owned servicing is the coming thing.

In the give and take of a press conference in Toronto this month, Pres. Ralph J. Cordiner of General Electric Co. took the lid off some major developments in the marketing of appliances in the U.S.

The trends—by no means limited to GE—run toward the centralizing of sales promotion, holding of inventory, and servicing of appliances after sale. They add up ultimately to a new role for the retail dealer, who is already slipping as a factor in U.S. marketing.

• GE's Plans—Cordiner's revelations were not part of a planned announcement. They came in answer to questions about U.S. conditions, in a conference that dealt chiefly with Canadian affairs. He said:

• GE's broad study of distribution (BW-Oct. 2'54, p68) discloses that customers regard the servicing of appliances as more important than price, style, or any other factor.

• Therefore, GE is considering extending its system of factory-owned regional warehouse and service centers, along the lines of its earlier experiments in New York and other urban areas.

• GE foresees the day when these centers will relieve the retailer of the burden of holding inventory. The dealer would take the customer's order and pass it along to the central distribution center, which in turn would ship the appliance directly to the customer.

• Dealer markups would then be trimmed, since the dealer wouldn't include service costs in his part of the retail price.

Cordiner didn't fill in any further details, and as late as last week GE officials were still chary of supplying any additional data.

• Confirmation—Actually, the news in Cordiner's remarks lies mainly in the fact that they confirm for the first time a trend at GE that many observers noted was emerging a year or more ago. Among the major moves this year:

• GE's taking over, through factory branch operations, some territories

formerly handled by independent wholesale distributors. Within the past year, for example, this happened in at least two additional urban areas.

• GE's abandonment of the practice of having the factory set retail list prices on major appliances (BW-Nov. 27'54, p25). One obvious inference to be drawn from this move was that GE no longer wanted to protect the margins of inefficient dealers but, instead, was willing to let the price level of its products adjust realistically to market conditions.

A few weeks ago Charles K. Rieger, vice-president in charge of major appliances, gave a further indication of GE's thinking. In a St. Louis speech, he declared that discount houses are an outgrowth of dealers' high markups, poor service, and failure to make credit easy for customers. The public is turning toward discounters, he said, because it is "getting nothing from the dealers anyway."

Said Cordiner at Toronto: "Discount houses are here to stay."

I. The Dealers' Role

The role of the dealer today, in cars and other products as well as in appliances, is changing.

In part, this is due to the effect of the antitrust laws in preventing exclusive dealing and to the failure of "fair trade" as a pricefixing device. But a more important factor even than these has been a basic shift in mass marketing.

• Self-Selling—In large measure today, many products are "presold" before they reach the retail counter. Retailers still talk a great deal about the "last three feet"—the traditional width of the counter between customer and sales clerk as the vital point at which the sale is made or lost. But the fact seems to be that with many products, particularly such big items as refrigerators, people know pretty much what they want before they get to the dealer.

• Sales and Service—However, the whole pricing structure of the auto and appliance industries, as two outstanding examples, is based on the premise developed in an earlier day when people had to be sold on even trying some new-fangled mechanical equipment. Built into the pricing of cars and appliances are some heavy incentives for (1) the sales function and (2) the servicing function.

The resulting high markups have been an open invitation for the discount houses—which exist on volume—to undercut the regular dealers in price. To make matters worse, dealers have weakened themselves in their second function, the matter of service.

As Cordiner pointed out in Toronto, "Where the discount houses can be beaten is in after-sales service; this is vital and must be continuous and prompt." But the trouble is that a great number of U.S. dealers have given up servicing altogether, or have done it so badly that the customers have been irate.

• The Abdicate—Electrical Merchandising, a McGraw-Hill publication, made an intensive study of the servicing picture a few months ago. One illustration from the article shows what has happened: A major appliance maker reports that before the war 95% of its dealers gave service; today only about 50% do.

The situation is not confined to appliances. The auto industry is likewise beginning to have some sober second thoughts about the servicing that its dealers supply—or don't supply (BW-Feb. 19'55, p56).

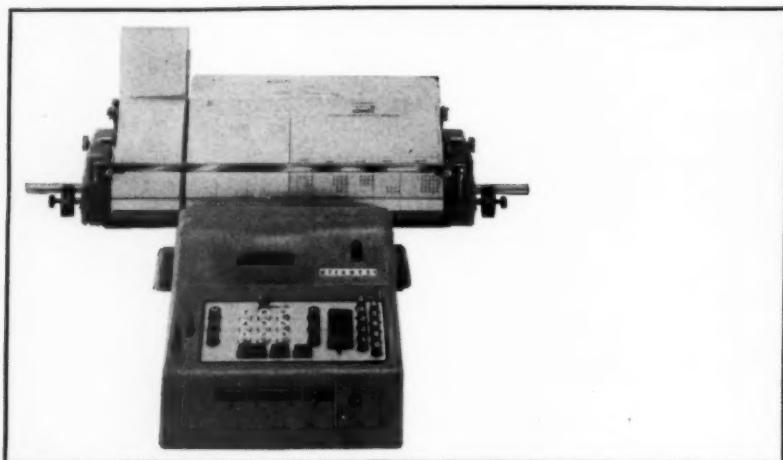
In fact, servicing can be described as the point of tension between the manufacturer of branded goods and the consumer. The problems besetting it highlight the shortcomings of present methods of distribution. At bottom, these problems arise from refusal of some manufacturers to accept responsibility for the working of their product after it leaves their hand.

• Attitude—The history of servicing is studded with such evasions of responsibility by manufacturers and also by retailers and distributors, who don't want to get left holding the bag either.

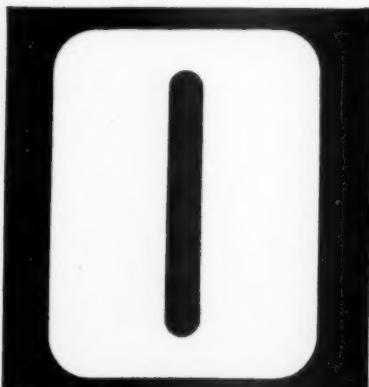
The ambivalent state of mind that prevails is nicely illustrated by a quotation from Electrical Merchandising. One manufacturer, explaining why he preferred to hire outside concerns to do his servicing, said:

"It's easy for a customer to de-

This is the Olivetti Automatic Carriage Printing Calculator, the book-keeping-machine version of the long-established Olivetti Printing Calculator. Original in conception, it provides the advantages of "bookkeeping by machine" for a relatively small outlay. It multiplies, divides, adds, subtracts in exactly the same completely automatic way as the Olivetti Printing Calculator. It automatically prints desired figures on accounting forms, moving automatically to the proper columns. Capacity 999,999,999.99.



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mand and get more service than he deserves from a factory branch, simply because the branch is an extension of the factory and must do all it can to protect the company's good name, no matter how much it costs or how exorbitant the demand."

• **Creating a Vacuum**—Since the advent of the discount house, a lot of dealers have simply forfeited the game. In one town in Connecticut, for instance, a group of dealers for different national brands of appliances took an ad jointly to warn commuters in just so many words that if they bought their appliances from New York discount houses they needn't expect much service from the local dealers if things went wrong.

This kind of defection has left a significant gap in distribution in the U.S. The problem exists in a number of fields, and it is growing in importance as technology brings new products into the home.

The Austin (Tex.) studies of air conditioning in the home have shown that one of the weakest points about home air conditioning is the dual problem of installation and servicing (BW-Apr. 2 '55, p46).

Today, in the appliance business, many manufacturers will admit that servicing is one of the factors that ruins their repeat business, that turns customers to other brands.

II. Central Servicing

The need for action has led to a new major trend in the appliance industry—toward centralized, factory-owned servicing. Says Electrical Merchandising:

"Eventually, most appliance service in cities of 100,000 and over may be handled by factory branch agencies."

• **Profitable**—In the mass, there's profit in servicing, at less cost to the customer than local, small-scale servicing. One manufacturer makes the point that if each of its 100 dealers in the Chicago area did his own servicing, he would need to have three repairmen—in other words, there would be a total of 300 servicemen in the area to handle the maker's business. But a centralized arrangement required only 100 men.

Another major manufacturer estimates that a local dealer's cost of servicing comes to 3.3% of sales volume. The centralized, factory-owned operation does it for 1.9% of the sales dollar.

• **Experience**—Some companies have had some form of centralized service for years. But the big push toward it has come since the war.

Westinghouse Electric Corp. offers a good example of how far the push has gone. Today, in 65 of the largest U.S. cities (100,000 population or more), Westinghouse has centralized service. These operations are handled either by

Your business is in the Age of Electronics

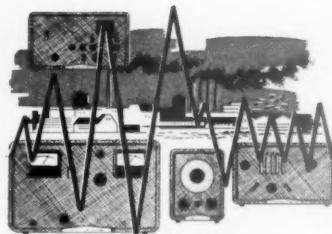


Electronics at work: Electronic test instruments in the new Ford Engineering Research Laboratory include Hewlett-Packard oscillators, voltmeters, wave and noise analyzers, signal generators, and the new, amazingly versatile -hp- electronic counters. Noise level measurements (above) are often made outdoors to reduce the influence of reflected sound on instruments.

At Ford, new electronic test instruments speed research, simplify product testing

A complete electronic test setup makes the new Ford Motor Company Engineering Research Laboratory at Dearborn an engineer's dream. Many engineering problems are solved in a fraction of the time formerly required. The new electronic equipment—much of it supplied by Hewlett-Packard—enables Ford engineers to develop new and improved components, measure speeds, time mechanisms and evaluate stress and strain quickly and with accuracy hitherto unobtainable.

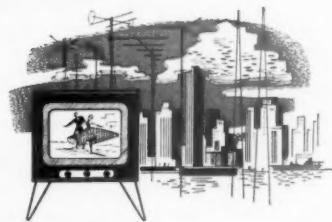
Hewlett-Packard is a pioneer and world leader in electronic test instruments—basic measuring tools used throughout manufacturing and process industries, in scientific research, communications and military installations. Correct application of such equipment is of first importance; Hewlett-Packard field engineers can tell quickly whether any of over 200 different -hp- instruments are applicable to your needs. A letter giving your measuring requirements will receive prompt attention.



Throughout industry, electronic test instruments are making routine measurements faster, making other measurements once not possible. They function by comparing or measuring electrical impulses from natural or man-made sources.



Oil companies use -hp- voltmeters and oscillators daily in geophysical exploration. By evaluating electrical signals reflected from different subterranean strata, instruments help find oil.



Your TV picture is clear and steady, thanks to electronic test instruments. TV set makers use them to design better circuits, and speed manufacturing. Broadcasters use them to maintain transmitters in perfect operating condition.



ELECTRONIC MEASURING INSTRUMENTS
for speed and accuracy

FIELD ENGINEERS IN ALL PRINCIPAL AREAS

HEWLETT-PACKARD COMPANY
275 PAGE MILL ROAD • PALO ALTO, CALIFORNIA

3037



dust recovery pays off, too

Just ask any Buell user! And we'll gladly give you the address of the installation nearest you!

Because of Buell's scientific approach to valuable dust recovery problems...many of America's Leading Corporations yearly recover over 10,000 tons of re-usable dust.

Thanks to Buell's experience and skill...Buell customers *know in advance* almost to the pound how much valuable dust can be recovered from their industrial stacks...how much money a Buell system will earn for them...how quickly it will pay for itself.

Without obligation...Buell Engineers will make a **SURVEY** of **DUST BENEFITS** for your plant. Also, we will be happy to forward to you a booklet: *The Collection and Recovery of Industrial Dusts*—which clearly explains *all three* Buell Systems. Write Dept. 30-D, Buell Engineering Company, 70 Pine Street, New York 5, New York.

buell®



**20 Years of Engineered Efficiency in
DUST RECOVERY SYSTEMS**

independent distributors or by Wesco, Westinghouse's own distribution organization.

Westinghouse has also authorized 150 independent contractors to handle repairs. These are intended to handle small appliances, to fill the need arising from the fact that today a wide range of retailers, such as drugstores and hardware stores, carry small appliances.

• **GE Policy**—Today General Electric offers centralized service in about the same number of cities as Westinghouse. Observers figure that these cities provide GE with probably a little more than half its annual volume in major appliances. GE's servicing is done either by factory branches in the areas where GE has taken over independent dealers; by Gesco, its distribution set-up, or by independent contractors. But GE reportedly frowns on contractors, even though it uses them in some cases. (Some manufacturers dislike service contractors because they do not have brand loyalty and are often more interested in selling parts than in repair work.)

Dealers make an interesting comment on GE: It is one of the few companies that will actively discourage a dealer from handling his own servicing.

• **Pressure to Conform**—Some companies are, of course, dead-set against centralized service on any terms. Philco, for example, says that it "probably always will be an exponent of independent servicemen." But in at least one case the pressure of the times has driven Philco into centralized operation.

That happened in Chicago. Philco learned that the TV dealers there were doing away with servicing. Since Motorola, RCA, and GE offer centralized service there, Philco has been forced into a similar arrangement.

• **Always Be a Dealer**—Trade observers make the point that centralized service will never entirely sweep the country, that in rural districts you will always have to have dealers who handle servicing. A sparse population won't support the centralized type of operation.

In the urban centers, however, the pressures will undoubtedly continue to push towards centralized servicing. One major pressure is the increasing amount of major appliances that is bypassing the dealer entirely and getting into the home via the route of building contractors (BW—Nov. 20 '54, p31). This trend is becoming more important with the fast increase in built-in equipment.

Meanwhile, in competition with the discount house type of operation, dealers more and more tend to cut costs by becoming order-takers and by giving less and less service. And if GE follows through with Cordner's ideas, order-takers will be precisely what dealers will become.

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\$1,675 investment in Recordak Micro-filming pays \$15,000 annual dividend. L. F. Rothschild & Co., N. Y. C., eliminates costly manual transcription in keeping stock records . . . saves on stationery, postage, etc.

Spends \$600 per year . . . saves \$5,000. Moledzky Transportation Company eliminates check sheets, transcription errors . . . has all records at finger tips.

Navy saves \$35,000 by taking ships' inventory with Recordak Microfilming. 1000 photographically accurate records made in an hour compared with 20 using manual transcription.

Savings are 16 times cost of Recordak Microfilming. City Messenger Service of Hollywood reduces billing time from 80 hours per week to 4.

Recordak Microfilming makes possible

Short Cuts that save millions

Regardless of your type of business—or its size—you should double check your routines with a Recordak Systems Man soon.

Doing so has paid off for thousands of companies in over 100 different types of business. And the chances are good some of the routines which have been streamlined by this sensational photographic process are *similar to yours*.

You certainly don't want to pass up savings which are many times greater than the low cost of Recordak Microfilming. Just tell us when you'd like a Recordak Systems Man to call—*no obligation whatsoever*.

Recordak Corporation (Subsidiary of Eastman Kodak Company), 444 Madison Avenue, New York 22, N. Y.

"Recordak" is a trade-mark

RECORDAK

(Subsidiary of Eastman Kodak Company)

Originator of modern microfilming—
and its application to business systems

—MAIL COUPON FOR FREE BOOKLET—

RECORDAK CORPORATION
(Subsidiary of Eastman Kodak Company)
444 Madison Avenue, New York 22, N. Y.
Gentlemen: Please send me a copy of
"Microfilming Short-cuts That Save Millions."

R-7

Name _____

Position _____

Company _____

Street _____

City _____ State _____

NBC Dresses Radio for Leisure

Other networks may follow pattern of new weekend show, "Monitor" . . . Justice Dept. looks at gasoline price wars from different angle than Congress . . . Coty sues Revlon for "misappropriating" lipstick ads . . . Univ. of Michigan finds advertisers bullish.

"Monitor"—National Broadcasting Co.'s new weekend package radio show that gets under way June 12—has caught the half-cautious, half-envious eye of competing networks.

NBC gave out a few more details on its new show (BW-Mar. 12 '55, p27) last week. Monitor will be based on two pet formulas of NBC's Pres. Pat Weaver and Executive V-P Robert Sarnoff: network control over its shows, and flexibility of programming. Monitor's advertising will carry out NBC's television ad policy—the so-called magazine concept—which means that a lot of advertisers will take short spot ads in a long package program, rather than one big advertiser identifying himself with a particular half-hour or hour show.

In fact, the traditional radio time scheduling of 15-minute segments is out. Monitor will feature a continuous package of spot news and special events as they happen, music, sports, comedy, variety shows, interviews, and the like—from 8 a.m. Saturday to Sunday midnight. Tape will be used where possible, so that the network can schedule and list its programming ahead of time.

Monitor's flexibility is aimed at what Weaver and Sarnoff think is the new type of radio listener—the casual dial-twister. Especially on the weekend, NBC figures, people like to switch around, get a variety—whether they are at home, out driving in their cars, at a picnic, or on the beach. In fact A. C. Nielsen market research service announced this week it will add car radios to its audience polls.

Ad rates for national network coverage on Monitor will run as follows: \$1,000 for a one-minute commercial, \$3,000 per series of four 30-second spots or 10 six-second "billboard" spots. On the slow midnight to 8 a.m. segment, these rates will be halved. Some local spot ads will also be accepted.

Basically, NBC's move in developing Monitor stemmed from necessity. Network ad revenue figures for last year (BW-Apr. 9 '55, p62) show that NBC's radio take fell off almost 25%, from \$45-million in 1953 to \$34-million.

The big question is: Will Monitor work? If it does, the other nets may follow suit. Right now, they're watching and waiting. CBS Program Director Adrian Murphy says frankly he likes

the idea. "It makes good economic sense," he points out, because the trend in advertising is to reach more people, even if less often. But, Murphy adds, if Monitor turns out to be just another glorified disc-jockey program, CBS isn't interested.

ABC claims it was the first network successfully to try a series or strip of weekend news programs several years ago. ABC programmer Charles Ayers thinks Monitor's news formula is a good one. But to try to package all other commercial programs is "questionable."



The kangaroo in the picture above helped Gimbels department store in New York to sell spring clothing fashions. One of six females—all complete with baby kangaroos in their pouches—she is in the store's big show window at 33rd St. and Broadway as part of an Easter promotion for children's clothes. Her excuse for being in a fashion window is what Gimbels calls the traditional spring trip to the zoo. Outside the cage, children's manikins, dressed in the latest spring styles, "watch" the kangaroos.

Gasoline price wars may get a once-over by the Justice Dept. as well as by Congress—but from different angles.

Justice's regional office in New York this week started grand jury hearings on the gas price war in neighboring New Jersey, where retail prices have fluctuated sharply up and down simul-

taneously throughout the state for some time.

Next week, Sen. Hubert Humphrey (D-Minn.) is scheduled to kick off his Small Business subcommittee investigation of oil supplier-dealership relations in general. Meanwhile, Rep. James Roosevelt (D-Cal.) has already started a similar probe before his House Small Business subcommittee.

The Congressional probes are expected to be general in scope—based on an increasing number of complaints from independent retailers who charge they are being squeezed out at a rate of 30% per year by monopolistic practices of the big suppliers. Among these are short-term contracts, exclusive dealing, price wars, and other allegedly unfair competition. All of this is also expected to make good political grist for Democratic committee chairmen's investigative mills—but so far Roosevelt and Humphrey have been careful to keep their statements general and broad.

In the New Jersey price probe, the Justice Dept. has subpoenaed the heads of several retail oil dealer associations in Jersey—indicating that the government is interested in finding out if the retailers themselves, rather than the big suppliers, have had anything to do with the price wars.

After long debating the advantages of dynamic downtown Houston versus the suburbs, Foley's department store has decided to stay put.

The parent chain, Federated Department Stores, announced this week that it will add four floors and penthouse to its present downtown building. Foley's is making this move despite the fact that one of its main competitors, Joske's (member of the rival Allied Department Stores chain) is opening a big suburban store in Gulfgate, a new shopping center in suburban Houston.

Indignant charges of stolen ad copy were brought against Revlon Products Corp. last week by Coty, Inc.—marking the latest round in a bitter industrywide cosmetic market battle.

Coty's case, filed in New York federal district court, alleges that Revlon "misappropriated" Coty's ad claims and copy for its new "long-lasting" lipstick, "24." Coty came out with the new lipstick last January after "many months" of laboratory and market tests. It claims a new formula that allows the user to wash it off completely before going to bed and still "wake up beautiful" in the morning with a vestige of "live" color "bonded" to her lips.

Last month, Coty charges, Revlon

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Whatever the job...



PERMACEL 32
PLASTIC TAPE

marking or masking

PERMACEL 77
MASKING TAPE



SELF-STICKING
PERMACEL® TAPES

In our complete line, there's a self-sticking tape for every job . . . write Permacel Tape Corporation, New Brunswick, N. J.

a *Johnson-Johnson* company



These two Quonsets—a dairy cattle housing demonstration and research project—are at one of the many colleges and universities with which National research men work to improve farm buildings.

THIS IS NATIONAL STEEL

Now they call it a "Working Tool"

Not so long ago, a barn was considered merely a shelter. Then, along came a revolutionary idea in steel . . .

For generations, the old-fashioned barn didn't change.

But all around it, out in the fields, there was tremendous progress.

New methods of plowing, planting, harvesting. New developments in hybrid seeds, insecticides, fertilizers, farm machinery.

Then, after World War II, the barn began catching up with progress.

A building pioneered by our Stran-Steel Division appeared. And with its arrival came the new idea that a farm building should be a "working tool."

That building was the Quonset—fabricated of Stran-Steel nailable framing and galvanized sheets.

A new way of thinking

To begin, research men of National Steel looked at farm buildings in this new light. They saw them as tools, rather than buildings. Tools versatile enough to do many jobs, take much of the work out of farming, let livestock do much of the work themselves.

To develop their working tool concept on the farm, National Steel's

research men—working closely with specialists at leading agricultural colleges and universities throughout the nation—started with a building that already had gained international fame during World War II—the Quonset.

Grain drying and storage

Tackling the farmer's eternal problem of weather, National Steel's research men adapted the Quonset for grain drying and storage.

This Quonset, equipped with a drying and aeration system, makes it

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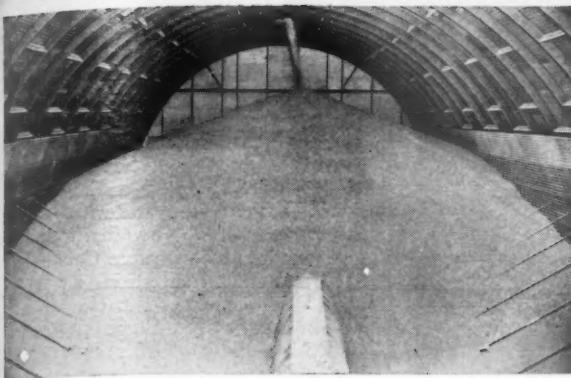
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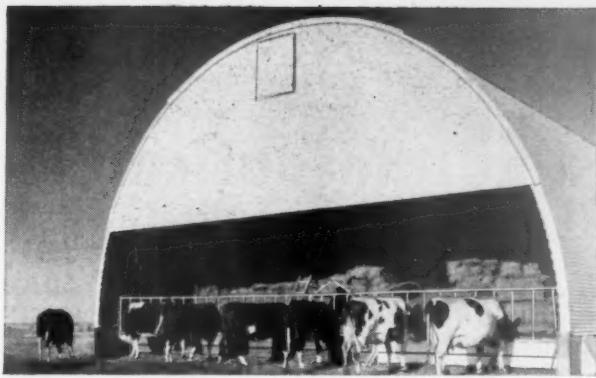
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In this Quonset grain drying and storage building, air is circulated through grain by means of tunnel seen in foreground. Building protects grain from spoilage and weather.



This Quonset hay drying and self-feeding building with a movable manger enables dairy cattle to literally eat their way into shelter, reducing the farmer's labor and feed costs.

possible to dry grain crops with natural air, and provide safe storage with no spoilage worries.

Today Quonset owners recognize their steel grain storage buildings as tools which save more from their harvests, keep crops at highest quality, provide greater marketing profits, and reduce weather worries.

Hay drying and cattle self-feeding

Further study of the working tool concept resulted in the Quonset hay drying and self-feeding barn.

Livestock specialists working with National Steel found that by using this building, hay was of better quality, cattle would eat more, and cost of milk production would decline.

When this Quonset is equipped with movable mangers, cattle feed themselves and literally eat their way into shelter. This feature sharply reduces feed bills and labor costs. And with post-free construction, it is much easier to handle cattle and keep facilities clean with power equipment.

Today's progressive farmers are finding Quonsets ideal for every farm

job — drying, conditioning, storing crops; sheltering, feeding, caring for animals; protecting and maintaining expensive machinery.

What about the future?

In the words of one of America's leading agricultural authorities: "The new look in farm buildings emphasizes utility and versatility—two qualities that make a building work harder and make more money for its owner. This is one of the important ways farmers can meet the challenge of greater productivity with dwindling labor supply and rising operating costs."

That is why National Steel's research is directed toward the goal of making every farm building a versatile year-round, multi-use working tool that earns more for its owner by saving labor, lowering costs, and by improving quality of the product.

We at National Steel believe the working tool concept of buildings will continue to grow in acceptance and expand in application—not only on the farm but in industry and commerce as well. Its great strength is in the metal that makes it both possible and economical—steel.

Steel serves in many ways

Steel has played a vital role in giving our nation the highest standard of living the world has ever known. It works in many fields. It has solved many problems in our automotive and canning industries, and wherever steel has been called upon to serve.

Truly, steel is America's great bargain metal. And it is our constant goal, through research and cooperation with our customers, to continue to produce still better steels for a better America . . . now and in the future.

NATIONAL STEEL CORPORATION

GRANT BUILDING



PITTSBURGH, PA.

"Quonset" is a registered trade-mark.



SEVEN GREAT DIVISIONS
WELDED INTO ONE COMPLETE
STEEL-MAKING STRUCTURE

Great Lakes Steel Corporation • Weirton Steel Company • National Steel Products Co. • Hanna Iron Ore Co. • The Hanna Furnace Corporation • Stan-Steel Division • National Mines Corporation



Meeting every need for efficient machinery storage and maintenance, this new Rigid-Frame Quonset provides easy-in, easy-out handling of equipment.

Pharmaceutical Makers

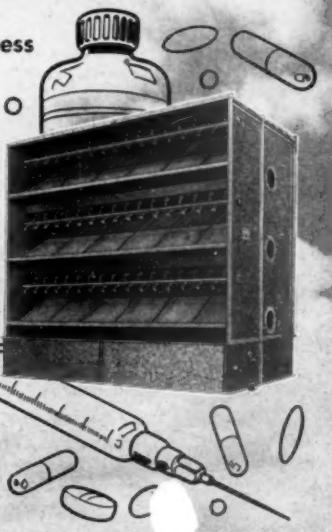
ARE AMONG THE MANY RELYING ON Clarage AIR HANDLING AND CONDITIONING EQUIPMENT

Much of the conditioned and process air so vital to pharmaceutical research and production is furnished by Clarage. Here, as in every other segment of American industry, Clarage fans and units enjoy the finest reputation — and have for 40 years. If you, too, want dependable equipment for making air your servant, call us in.

CLARAGE FAN COMPANY

Kalamazoo, Michigan

Canada Fans, Ltd., Montreal, Canada



Ampro serves America's leaders

Throughout the nation, leaders in business and industry are using Ampro 16mm Sound Projectors to present ideas and stimulate creative thinking. Among the firms who depend upon Ampro to sell ideas, products and services are these:

- Aluminum Company of America
- American President Lines
- Duo-Therm Division of Motor Wheel Corp.
- Kendall Refining Company
- The Kroger Company
- The Procter & Gamble Company
- Standard Oil Company of California

"SCREEN ADVENTURES"

A catalog of ideas... *Free*

If your organization is not yet taking advantage of the vast store of 16mm films available in every subject area, write for your free copy of "Screen Adventures," a 16-page book listing 325 representative 16mm sound films. Listed by subject, synopsis, source.



AMPRO CORP.

2835 N. WESTERN AVE., CHICAGO 18, ILL.
A Subsidiary of General Precision Equipment Corporation



Send my free copy of "Screen Adventures."

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

began copying Coty's magazine ad themes and even its exact language in TV ads for Revlon's "Lanolite" lipstick, claiming that Lanolite lasts overnight and lets the user "wake up beautiful" with "live" color on her lips.

Coty's suit alleges that Revlon's Lanolite formula is not new, that it is the same product it was before Coty developed and started advertising an "overnight" lipstick. Coty also charges that Revlon's TV ads infringe on Coty's trademarks and copyrights, and mislead the public.

Claiming damages "far in excess of \$3,000," Coty asked the court to enjoin Revlon from copying its ads, and to make the company account for its profits on Lanolite. Coty also asked the court for "just" damages.

Revlon's ad agency, William H. Weintraub & Co., Inc.—named in the civil suit along with Columbia Broadcasting System's TV network that carried the Revlon ads—has denied the charges "categorically."

This isn't the first time one cosmetic maker has accused another of stealing its ad themes and copy. Last fall Hazel Bishop, Inc., charged Gillette Co.'s Toni Div. with purloining the entire Bishop formula, packaging, and ad copy for the new Toni Viv lipstick (BW-Sep. 11 '54, p174). Soon after this case was filed, Bishop also filed a similar one against Revlon. Both cases are still pending.

More optimism, more production, heavier selling—these keynote the findings of a survey of manufacturers' views and intentions just completed by the University of Michigan. Its School of Business Administration sent questionnaires to 150 national concerns, got answers from 45. Here's what it found out:

Over half the respondents—53%—feel their customers' inventories are about right. Only 7% figure they are too high; 29% think they are too low.

On production plans, 53% expect to step up output in the second half of 1955 as compared with the same 1954 half. However, a good fifth of the companies haven't made up their minds on this point; 7% plan to cut back; 19% will hold to their present schedule.

When it comes to selling, there is more unanimity. Over half—56%—mean to expand their sales force in the next 12 months. Nearly half—43%—will spend more on market research within their company, and 37% will spend more on outside research. Significantly, the number of companies that plan to cut back—in men or advertising and research dollars—is zero. Thirty-six percent of the companies will increase advertising outlets; the rest will hold to present schedules.



You can get more mileage from your man power

You can't drive a salesman like a motor car. But the right pressures, applied in the right way, can rapidly accelerate sales effort. Knowing how, when and where to apply that pressure is our specialized business.

In 33 years, we've learned . . .

Routine family needs generate routine sales effort, while glamorous travel and merchandise prizes spark unprecedented excitement.

Stimulated by colorful home mailings, wives become unpaid "sales managers" who prod their men to greater effort.

When prizes are put within their reach, "average" salesmen will set new records, learn new techniques, gain lasting self-confidence.

Busy sales executives are too busy to apply every tested motivation in a "one-shot" campaign . . . they need professional counsel and help.

C-M campaigns succeed . . .

"The jobber-salesman contest produced some rather astounding results," one manufacturer states. "Sales during this period increased approximately 130%. We are looking forward to repeating the formula."

"We have used your merchandise prize service for a number of years with gratifying results. The travel service has more than lived up to your claims . . . such personalized touches make an outstanding trip," reports an insurance company.

"Our contest was so successful," writes a wholesaler, "that we plan to use this media as a permanent part of our operation."

How does it work? . . .

Simple! Tell us what you want to do, how much you want to spend for each unit of extra sales. We submit a com-

prehensive plan: supply prize catalogs with 1,450 nationally-known items; arrange all travel award details; prepare mailings and sales meeting material. You okay the campaign; pay for prizes after they are won. Service and creative work is free; merchandise is billed at wholesale, travel at carrier-resort rates, printing production at cost.

If that sounds like a money-making proposition for your firm, why not act now!



Send for free facts . . .

Every executive who wants to get more out of his men can profit by reading "The Incentive Story". It tells how to stimulate extra work and enthusiasm, describes record-setting campaigns. Write on your letterhead to CAPPAL, MACDONALD AND COMPANY, DEPT. B-4, DAYTON 1, OHIO.

Americans are Travel Hungry

You can't find better work-bait than Bermuda, Hawaii, Southern California, Paris. You can't find better transportation than giant Clippers® or Mainliners® . . . fast and flexible enough to take any group anywhere any time. You can't find smoother, more care-free arrangements than those made by the world-wide representatives of Cappel, MacDonald, using the facilities of



CAPPAL, MACDONALD AND COMPANY

Dayton, Ohio



Offices in all principal cities and Canada

MERCHANDISE INCENTIVES • PREMIUMS • TRAVEL INCENTIVES

PAN AMERICAN WORLD AIRWAYS



GOVERNMENT



1 Typical radar plotting post at Montauk Point, N. Y., watches for enemy bombers. It checks all planes in its area against advance flight plans, required by law.



2 Data shoots to Continental Air Defense Command in Colorado, where it's posted on transparent boards and maps. If a plane deviates from flight plan, or remains unidentified, there's quick action.



3 Conad flashes an order to regional air division: Find out what the plane is doing.

If Bombers Come



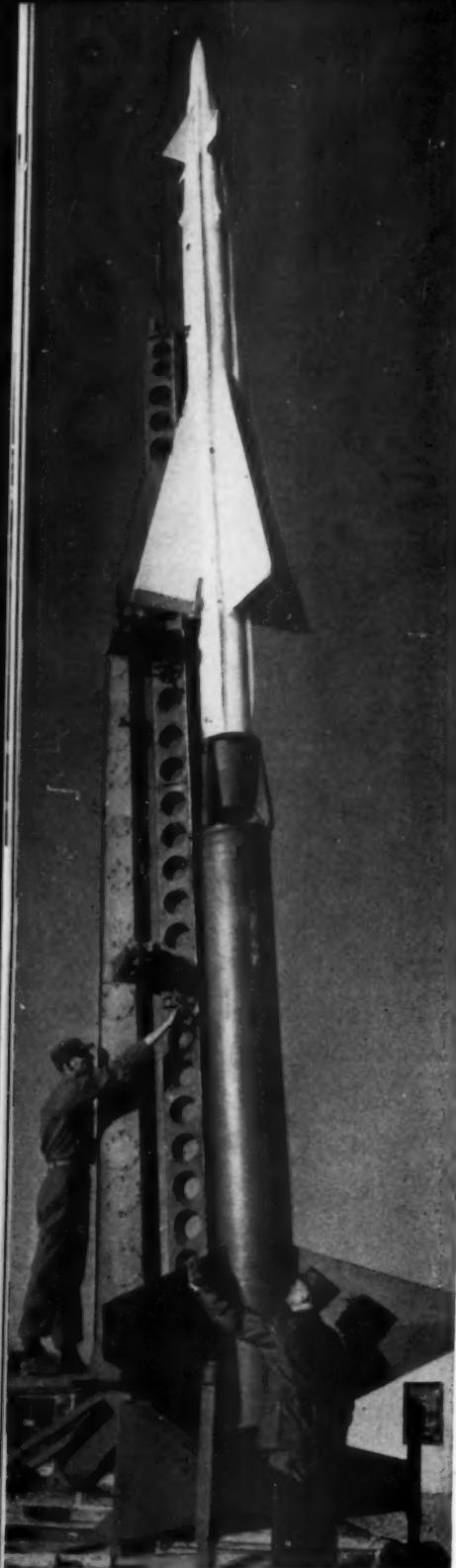
Jet pilots at Suffolk Air Force Base (Westhampton Beach, N. Y.) scramble aloft.



4 If the plane were an enemy, it would meet such weapons as the Falcon, hound-like guided missile.

1. Meeting Them in the Air

(Story continues on p. 54)



THE NIKE, ground-to-air missile, is now in production. Nike launchers will be spotted around major target cities within a year. It's one more phase of air defense.

Air Defense (cont'd.)

An unimposing five-story building that was once a tuberculosis sanitarium stands on the outskirts of Colorado Springs, Colo. Next to it is an odd-looking, windowless blockhouse three stories high. Both are surrounded by armed guards and a high barbed-wire fence.

From these two buildings, the strings are pulled on U.S. air defenses. This is the headquarters of Gen. Benjamin W. Chidlaw's Continental Air Defense Command (Conad)—our guard against an enemy air attack.

• **Living Map**—A map of the U.S. and Canada, etched on a Plexiglas board 20 ft. wide and 30 ft. high, stands inside the blockhouse, which acts as Conad's "combat operations center." On the map are plotted all unknown planes spotted anywhere in the country by radar or ground observers. At least 30 unknown planes show up on an average day.

When an unknown plane cannot be identified within minutes, at least two jet fighter-interceptor planes are ordered into the sky by a regional air defense division. Colorado Springs is notified at the same time. When the unknown is identified as friendly, the report quickly comes into the blockhouse. The unknown's plot is then wiped off the Plexiglas map.

But should the unknown turn out to be hostile, the wheels would start turning in Conad. Two loud gongs would shatter the blockhouse silence; a red light would flash on a control board; more jet fighters would be scrambled; and word would be flashed to Washington that World War III had begun.

• **Novice**—The U.S. is a novice at continental air defense operations. Not until 1948 did a full-scale air defense program get under way. In 1951, as a screen of radar stations came into being and other air defense plans began to shape up, the Air Force set up a separate Air Defense Command. Gen. Chidlaw, a World War II tactical air commander and a pioneer in the development of the first U.S. jet aircraft, was made commander. A new commander will take over next month, when Chidlaw retires.

Last year, Chidlaw's command was enlarged, taking in Army and Navy air defense elements. Conad became a combined command, operating directly under the Joint Chiefs of Staff. Lt. Gen. Stanley R. Mickelsen became commander of Conad's Army Anti-Aircraft Command, Rear Adm. Albert K. Morehouse of Conad's naval forces.

• **Offense**—Up to now, air defense in U.S. military plans has taken a back seat to air offense—to the Strategic Air Command, Gen. Curtis E. LeMay's

armada of long-range bombers. Air defense accounts for only about 15% of our present military effort, SAC at least twice that amount.

U.S. strategy is based on the theory that the strongest weapon of air defense is still the ability to retaliate. Congress agrees. Says Rep. George Mahon of Texas, chairman of the House Military Appropriations subcommittee: "It's like the administration of justice—certainty of immediate punishment is the main deterrent to crime."

But Moscow continues to display newer wares each May Day—heavier and speedier bombers. And apparently Russia is keeping up with us in developing thermonuclear weapons. All this has played up the need for a stronger U.S. defense guard.

• **Promotion**—In recent months, Conad has been rating added attention in Washington. An extra \$1-billion has been earmarked for air defense this year. Another increase in funds seems likely for next year.

Right now, the U.S. has actual investment of over \$3.2-billion in air defense facilities. More than \$4-billion will be spent this year, of which about \$1.5-billion will cover operating costs.

For logistical purposes, Conad is divided into three regional air defense forces—with headquarters at air bases near San Francisco; West Point, N.Y.; and Kansas City, Mo. In turn, these forces break down into 12 air defense divisions. Each division is responsible for defense of a specific region.

Conad's mission is fourfold: to detect and identify enemy planes, and—the payoff—to intercept and destroy them.

Find Your Target . . .

Detection starts with radar. There are over 125 radar stations now in operation, and plans call for installation of nearly 375 new ones.

The big radars cover a range of about 200 mi. and an altitude of 50,000 to 60,000 ft. But between any two adjoining radar stations there is a gap caused by the curvature of the earth's surface. To fill in low-altitude gaps, Conad has some 13,000 ground observer posts, manned by about 350,000 civilian volunteers. Eventually, small radar units will be set up to cover strategic gaps.

• **Nets**—Radar is set up in nets or in series of stations. Right now, two main coastal nets are in operation—extending from Vancouver to San Diego on the Pacific, from Labrador to Savannah on the Atlantic. But emphasis is now turning to polar defense against an air attack from the north, and three big northern radar networks are being built up:

• **Distant Early Warning (DEW)** Line will run along the 70th parallel,

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REPORT FROM

DANLY

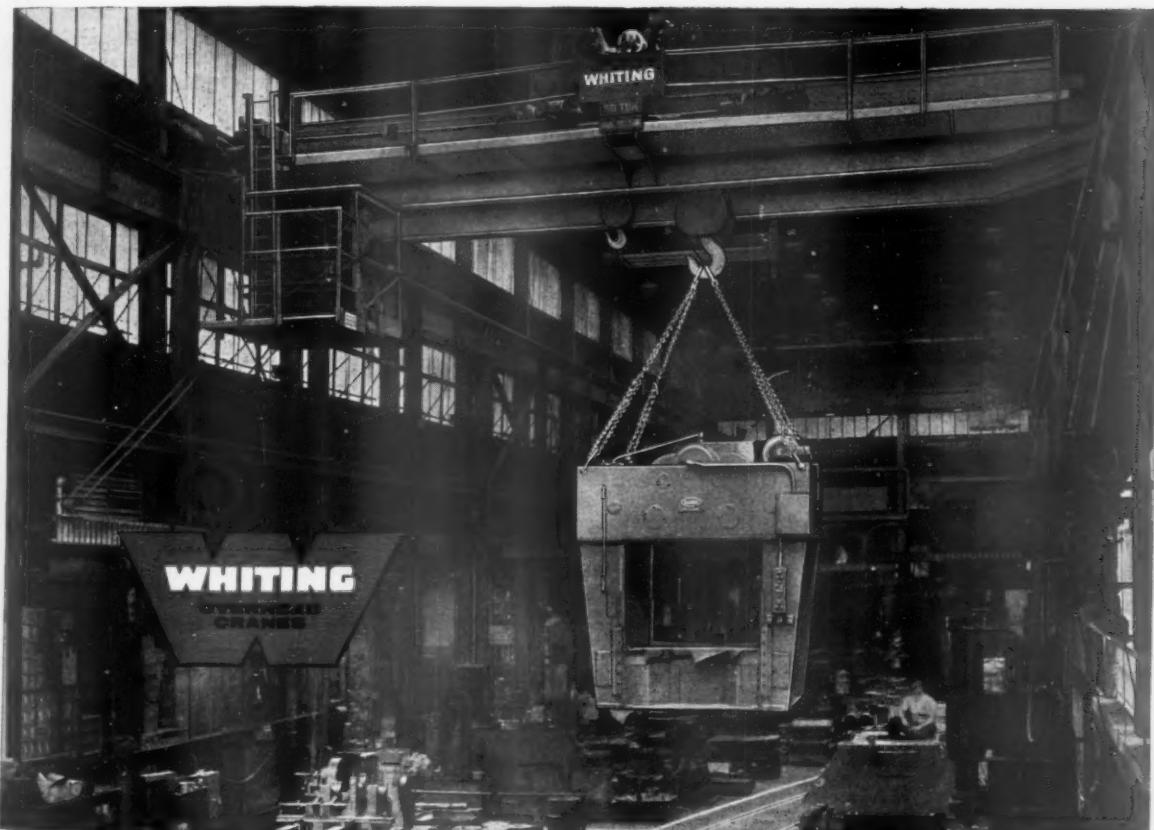
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together and planning the installations to meet *future* as well as present needs, (3) the outstanding features built into Whiting Cranes that assure peak performance at low cost. These features, to mention a few, include anti-friction bearings, precision-made gears, securely-fitted shafts and flanged couplings. Send for our new booklets — Unit 79 "How to Select A Crane" and Unit 80 "Presenting Whiting Cranes."

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1,200 mi. south of the North Pole, and will range about 3,000 mi. from Alaska to Greenland. This is about three jet-flying hours from the U.S. industrial heartland in the Midwest. Construction has just begun.

- Mid-Canada line—or "McGill Fence"—is under construction somewhere along the 55th parallel. McGill will give more specific warnings to more specific areas of the country than the DEW Line.

- Pinetree Chain is now operating after four years' work. It roughly parallels the U.S.-Canadian border, 300 mi. south of McGill. Pinetree stations receive radar impulses, then can calculate directions and speeds of invading planes and flash the flight patterns to U.S. fighter-interceptor bases.

- Extensions—There's a point of diminishing returns in all this. If you go too far north, the radar will pick up routine flights within Russia's own frontiers.

Plans now are to extend the DEW Line sideways, rather than concentrating on an even more northerly screen. Meanwhile, other detection lines will be filled out. Radar coverage is already augmented by picket planes and vessels in offshore waters. In addition, Conad is plunking down offshore radar-warning bases—known as "Texas towers"—on shoal waters about 150 mi. off the northeast coast (BW—Aug. 14'54, p136). Picket boats will be used where the ocean is too deep for the radar towers.

- Identification—On the average, about 30,000 planes take off from U.S. airfields every day. An additional 600 fly in from foreign fields. As part of the air defense setup, most of these planes must file flight plans in advance.

Every Conad division identifies each plane entering its area. For the most part, this is done by correlating the plane's tracks with known flight plans. If a plane deviates five minutes or 10 mi. from its plan, or is not identified within two minutes, fighter planes are scrambled to determine whether it is hostile.

... And Destroy It

The strong right arm of air defense is the jet fighter-interceptor plane. Conad has some 1,375 of them organized into about 55 squadrons. Air Force officials say each one is in the 600-mpm. class, has a combat range of about 500 mi. and a service ceiling of at least 45,000 ft. Each is also considered an all-weather craft and is capable of firing rockets.

- Line-up—Three fighter-interceptors are now on the line: North American's F86D Sabrejet, Northrop's F-89D Scorpion, Lockheed's F94C Starfire.

To many experts, these planes have serious limitations in range, speed, and

firepower. Two new fighters, neither in production yet, will most likely become the stars of the air defense fleet of the future—Convair's F-102 and Republic's F-101 Voodoo. Both are supersonic (with speeds of at least 660 mph. at altitudes of over 35,000 ft.), can fly at higher altitudes, are longer-ranged, carry more powerful weapons and radar. In addition, Northrop is coming up with an improved F-89H.

The Russians are known to have two heavy bombers in this 600-mph., 45,000-ft. class—the Tu-35 and Il-39. They also have a medium bomber, Il-28-2, which is even faster. None is believed to be in full production yet, however.

Over the next two years, the U.S. air defense force will be heavily beefed up. By June, 1956, Conad is slated to have 99 fighter-interceptor squadrons in the field (2,475 planes). By the following year, when the 137-wing Air Force finally takes shape, over 100 squadrons will be part of Conad.

• **Missiles**—Within a short time, Conad's fighter-interceptors may get guided missiles as standard armament. The Hughes Falcon, a 100-lb. missile that can be carried by a small interceptor, is already in production. When pointed at a target, the Falcon is steered to it by an electronic brain (picture, page 53).

Last week, the Atomic Energy Commission exploded another air-to-air missile—this time with an atomic warhead. This missile, AEC says, can knock out an entire fleet of bombers.

A land-to-air missile, the Douglas Nike, is now coming off the production lines. Within a year, Nike launchers will be spotted in over 100 sites around critical target cities. Nike can get to targets 18 mi. high at supersonic speeds.

Still in the research and development stage is a more promising interceptor guided missile, Boeing's Bomarc. Compared to Nike, it has greater speed, a longer range, a smarter electronic brain, and more punch in its warhead. It may carry an atomic warhead.

• **Ack-Ack**—Despite the hullabaloo over guided missiles, however, the traditional anti-aircraft gun will still be around for some years. Right now, Conad has hundreds of batteries, manned by some 45,000 troops, ringing critical targets.

Admittedly, ack-ack is a last-ditch defense. Any enemy plane within gun range is already close enough to drop an H-bomb on a strategic target.

Will It Work?

How well prepared are we now against an enemy air assault? Not too well, according to some experts.

An educated guess is that the early-warning system could give only 15

minutes' to an hour's warning of an enemy attack right now. When the full-scale warning net in the sub-arctic is in place, it should be able to provide from four to six hours' warning. But that's at least four years off.

The Northwest and Northeast are the best defended. Other areas—particularly the South—are wide open.

• **Batting Average**—How many enemy bombers would get through if an attack were made today? About two years ago, the late Gen. Hoyt Vandenberg, then Air Force Chief of Staff, told a Congressional committee that the U.S. could probably kill no more than three out of 10.

This answer has been haunting Conad's commander, Gen. Chidlaw, ever since. He refuses to set up any rule of thumb. Says he:

"There are just too many variables involved. This is like asking Willie Mays today how much he'll be batting on July 17."

• **Ideas**—Against attack by intercontinental ballistic missiles, submarine-launched guided missiles, or other push-button weapons the Russians may be dreaming up for the future, the present air defense system would be helpless.

U.S. planners know this, and are prodding research to come up with new push-button defenses. This is what they are looking for in:

Radar: Several rings of radar stations, which could detect aircraft or missiles at least 80,000 ft. high, completely ringing the main target areas and most of the North American continent. The stations would be able to trigger defensive missiles automatically after detection. The equipment would operate continuously with a minimum need for maintenance and be able to perform in the face of enemy electronic countermeasures.

Planes: All-weather interceptors that could fly considerably faster and higher than any attacking bomber and be able to reach an enemy within minutes. They would be stationed in strategic locations and be able to engage an enemy as far as possible from continental borders after radar detection.

Armament: Firepower that can't miss—both air-to-air and land-to-air weapons. The latter would have a greater range so that crashing bombers carrying nuclear cargoes would fall in less populated areas.

• **People and Plants**—Even allowing for such improvements as these, it's doubtful that the air defense system will ever be able to guarantee U.S. cities and industries complete immunity to bombing.

So there are two more phases to the task of preparing for air attack: helping civilians survive, and keeping industrial plants working. For a look at progress in these phases, turn the page.

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CIVIL DEFENSE: Survival Gets More Complicated

In these years . . .	pre-1945	1945-1953	1954-1955	Now
... civil defense experts tackled the problems of these weapons . . .	Conventional bomb	Atomic bomb	Hydrogen bomb	H-bomb plus fallout
... having these effects . . .	Local damage; fire	Destruction and heavy damage to 5-10 sq. mi.; widespread partial damage; fire; period of radiation danger	Total obliteration and heavy damage within about 50 sq. mi.; partial damage to some 500 sq. mi. more; widespread fire; long period of radiation danger	All the H-bomb's effects plus death and severe radiation burns as far as 160 mi. downwind from blast's center
... calling for these minimum measures . . .	Go underground	Go underground; hope you're not near Ground Zero	Clear the city	Clear the city, then get under a roof — at best, underground
... involving this minimum of preliminary work	Build or designate shelters; set up to handle fire and casualties	Build or designate shelters; set up for fire and casualties; arrange for radiological monitoring	Lay out escape routes; plan against panic and traffic jamming; set up for fire, casualties, and radiological monitoring; arrange for temporary feeding and other essential services outside city	All the basic H-bomb preparations plus shelter for city populations — houses, schools, even caves — in suburbs or rural areas

IF BOMBERS COME:

2. Protecting Target-Dwellers

"When you concentrate orange juice," a New York civil defense expert said this week, "that's fine. But when you concentrate history, it's dangerous."

He meant, in essence, that the 10 incredible years represented by the table above should have been 100—or, better yet, 500. It took about six centuries of slow evolution to get from the first military use of explosives to the block-busters of World War II. Then came the atomic bomb, capable of destroying not one city block but many. Then came the unbelievable hydrogen bomb, capable of obliterating an entire city. All in the space of one decade.

It didn't give civil defense men enough time.

• **Promotion**—The latest news from the weapons makers, a few weeks ago, told of "fallout"—the sinister rain of radioactive particles that follows a thermonuclear explosion. There went another century. Civil defense men all over the country suddenly began scurrying to catch up.

In Washington, the Federal Civil

Defense Administration started to gain prestige after years in the bureaucratic bush leagues. A Senate subcommittee told FCDA's chief, Val Peterson, that it would like to talk to him. It was the first time in four years that a civil defense chief had been invited by a Congressional committee to anything but an appropriation hearing. Several committees are now studying various aspects of civil defense. Pres. Eisenhower himself has asked that FCDA be given a supplemental \$12-million appropriation.

In target cities, there has been a similar awakening of sleepy interest in civil defense. Many local CD agencies have been through the same ups and downs as FCDA—founded with considerable fanfare in 1950, then stifled by bare minimums of money and enthusiasm. Now there are signs that the amounts of enthusiasm, if not money, are increasing.

Here is a look at civil defense as it stands today in Washington and in the target cities—the work done, being done,

and planned, and the macabre thinking behind it all.

At the Nerve Center

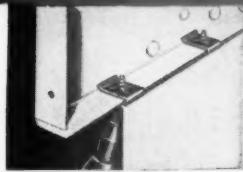
Like civil defense men everywhere, FCDA officials have found it hard to keep their thinking in step with the bewildering whirl of events in the past 10 years.

Until 1953, the worst the public had to fear was the A-bomb. FCDA advised citizens to duck into shelters when the air raid sirens howled. The H-bomb made life in the shelters an uncertain proposition, at best; and FCDA told city-dwellers to head for the suburbs if an attack came. Now comes the question of fallout. Merely going to the suburbs isn't enough, for fallout can kill you as far as 160 mi. downwind from a thermonuclear blast's center. The latest advice: Run as far as you can, which won't be far enough; then duck and cover.

This sounds fairly simple in outline, but there is a formidable tangle of prob-



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lens attached to it. For instance, few cities have enough roads, or roads arranged in the right pattern, for quick evacuation. But somehow, people must be evacuated quickly. How? And, once out of the city, where do they go? How do you shelter them, feed them, care for the wounded?

• **Social Standing**—Peterson's agency is studying these and other problems, and has come up with some preliminary answers. But here another problem raises its head. The agency has little authority. It has only a sort of loose working arrangement with state and city CD offices. It can spend millions of dollars and years of painstaking research on civil defense problems, but nobody is obliged to listen to its answers.

Further to complicate its life, it has a low social standing in Washington. To carry on its research, it needs information from such sources as the military services and the Atomic Energy Commission. FCDA officials have often complained that they don't get this information in the quantities they want.

Rep. R. Walter Riehman of New York has introduced a bill that would aim at the heart of this problem by abolishing FCDA and setting up a department of civil defense within the Defense Dept., on a par with the three military service departments. Another vocal advocate of CD reform, Rep. Chet Holifield of California, argues that civil defense matters should be taken out of state and local hands entirely and turned over complete to the federal government.

• **Record**—Despite all its troubles, FCDA has managed to get things done. In the past five years, it has spent \$239.6-million on:

Operations—\$39.8-million. This has gone mostly for research work, public education, and development of a domestic warning system.

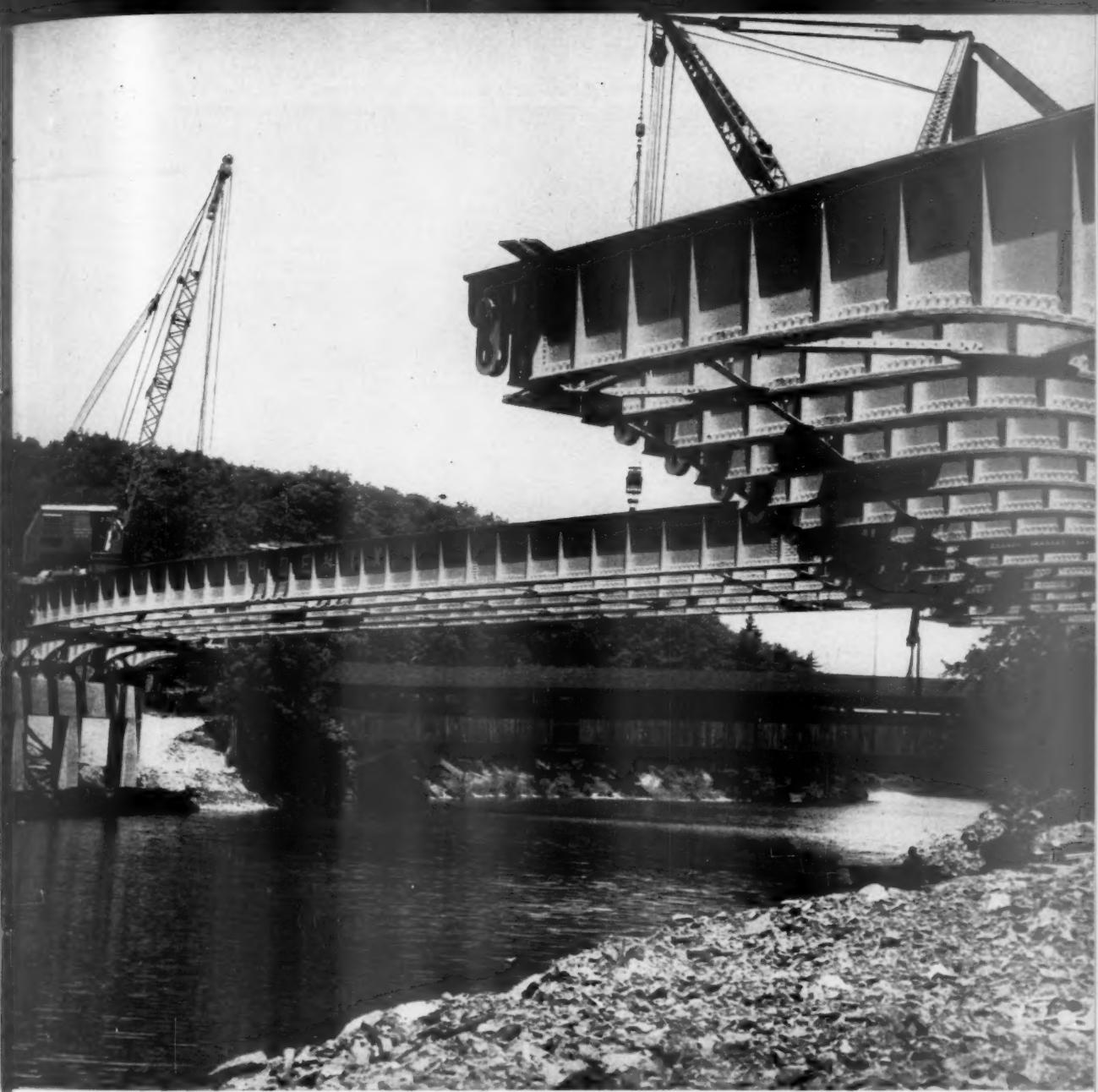
Grants to states—\$70.2-million. The states match such federal CD aid dollar for dollar.

Stockpiling—\$129.5-million. FCDA has stores of firefighting, water purification, and similar emergency equipment in 15 small cities across the country. It also has on hand enough medical supplies to provide minimum care for 2.5-million casualties for three weeks.

In the Target Cities

A New York City civil defense official this week paced up and down his office, pausing every now and then to stare gloomily at a map of Manhattan taped to the wall. "What we really need," he said, "is some way of freezing the Hudson River solid on four hours' notice."

He was referring to the problem of evacuating a big city with only a limited number of escape routes. His dream of a broad, flat expanse over which millions



CROSSING THE WALLKILL at New Paltz, N.Y. are the new and the old in U.S. bridge-building. Foreground: N.Y. State Thruway bridge erected by Phoenix Bridge Co. is 356 ft. long, 107 ft. wide, weighs 1778 tons. In distance is Perrine's Bridge built in 1850.

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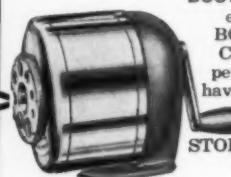
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of people might swarm is shared by the CD thinkers of almost every other U.S. metropolis.

Failing such an expanse, the harried CD men have gone about the monstrous task of planning for evacuation along roads and bridges and tunnels. The blueprints they have drawn up are diverse. So, too, are their ideas of what to do with the people when they arrive at their outer destinations. No two cities, in fact, think alike.

• **Master Plan**—Take the question of when, and indeed whether, to evacuate. Some cities—in Pennsylvania, for instance—disagree with the whole idea of clearing a city before an attack. Any attempt at sudden evacuation, many thinkers feel, would result only in huge and horrible confusion. The people are better off in cellars and subways.

Other cities go all out for the evacuation idea. "Any amount of evacuation is better than none," says a CD thinker in Cleveland. The idea here is that if only a few thousand people reach safe areas by the time the devastating explosion occurs, evacuation will have been worthwhile. Other cities, among them New York, feel that the value of a mass exodus depends on the amount of time allowed. If there is only one or two hours' warning before an attack, these cities think, chances are more people will stay alive if all duck for shelter. If there is more time, you can start clearing the city with some hope of success.

• **How?**—Some cities think automobiles are the best means of clearing a city; others favor public transit; others favor just plain feet.

The choice between cars and public transit usually hinges on the physical facilities of a city. Massachusetts' state CD director, Col. John Maginnis, feels that cars will get the people out of most of his state's cities fastest. Hartford, Conn., on the other hand, prefers to rely on a well-laid-out public transit system.

Those thinkers who favor walking argue on the assumption that there will be roaring panic in any city threatened with H-bomb attack. This being the case, they say, anyone who can travel on foot should do so. If you get the people into cars, the result will be accidents and hopelessly blocked roads. Use public conveyances, and you'll have riots at the doorways as everyone tries to pile in at once. But get every able-bodied man and woman out on the sidewalk, this school says, and the panic will actually be useful. It will get everybody running away—which is exactly what you want. Of course, even then you'll need stern directions by police and wardens.

• **Scramble**—The question of panic is one that has bothered CD men for a long time. Experts disagree on its likelihood and probable effects. Some say that the worst thing you can do to a

crowd in the face of danger is make it wait. If you get it moving, or working toward some goal, panic will be less likely. That's another argument for walking, the pro-feet group says. At least the crowd will be moving. Put the crowd in automobiles, which are likely to get jammed to a standstill, and you risk mass hysteria.

Others argue that a crowd on foot could get blocked, too, and that hysteria then would be worse than in cars. People would get trampled; fights would break out. In any case, this group says, the theory that a waiting crowd is more likely to stampede has not been proved to everybody's satisfaction.

• **Arrival**—Assuming that the citizens eventually make their way into the suburbs, what do you do with them then? Here, too, cities have diverse views.

Detroit, San Francisco, and Boston are among the cities thinking in terms of reception points in the suburbs. City-dwellers would show up at these points, previously assigned to them. Here, husbands coming from work could meet wives and children from home and school. Everyone would be sorted out, then assigned to whatever shelter was available—private homes, schools, office buildings, and the like.

Other cities have looked into the amount of shelter space to be had in outlying areas, but have not yet given much thought to the details of getting people into the shelters. Their view seems to be that the overwhelmingly important problem is getting people out of the city. Once out, the people themselves—aided by on-the-spot directions from CD workers—can find their way into buildings. Val Peterson of FCDA has added that anybody who can't get under a roof should dig himself a trench. Even this will give some protection against radiation.

• **Work Done**—Another point at which cities differ tremendously is the amount of actual civil defense preparation. Some cities have barely passed the talking stage. Others have vast networks of CD machinery ready to start rolling at a minute's notice.

San Francisco is probably one of the most-prepared cities. Its Disaster Council & Corps, headed by A. G. Cook, a retired rear admiral, is a determined and lively organization.

Cook has used postal zones as a handy way of dividing up the city for his purposes, and has designated an escape route for each zone. He has more than 17,500 on his list of volunteers for emergency duty. Over 10,000 since 1950 have taken special courses in atomic defense, radiological monitoring, first aid, and the like. There are 86 mobile aid stations, completely equipped, waiting around the city. San Francisco, in cooperation with the California state organization, is now work-

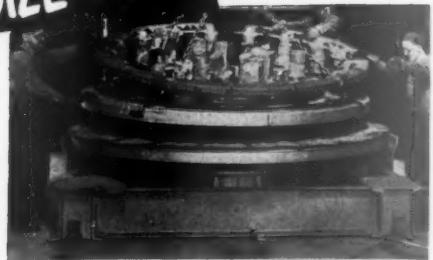
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ABOVE: Loading and unloading time is materially reduced through use of auxiliary tables. One auxiliary table can be loaded while the other is in the cabinet being cleaned.

BETWEEN: Cleaning winch hoist drums in the Wheelabrator Car-type Room.



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ing on the problem of shelter space.

• **Changes**—The one point at which most U.S. cities think much alike is this: With a few exceptions, they are dissatisfied. Most of them think that, given a few significant changes in the organization of civil defense, much more could be done.

The complaint you hear most often is one alleging that not enough help comes from the federal government. Many cities would like Washington to take over civil defense lock, stock, and barrel. A Chicago CD official feels that the evacuation of a city calls for martial law, and should be handled by the military. Philadelphia officials point out that in the case of their city, as of many others, evacuees will cross state lines; this seems to them a matter for Washington, not the states.

Other cities are content to handle

CD themselves, but ask for more federal help—mainly information and money. New York belongs in this group. Like Philadelphians, New Yorkers fleeing the city will cross state lines—into New Jersey and Connecticut. Governors of the three states have met to work out procedures by which they can cooperate; they are ready to work the problem out for themselves. But many CD men in the city would like to see FCDA in Washington assume more authority. They would like it to be something stronger than merely an advisory body.

The Washington agency's lack of bone and muscle was underscored when it, together with the Office of Defense Mobilization, scheduled a nationwide CD test for mid-June of this year. FCDA "invited" local agencies to take part. There is no guarantee that they will.

IF BOMBERS COME:

3. Keeping Industry Alive

The best defense anybody has ever developed against any kind of weapon is not to be there when it hits. This is the basis of the U.S. government's industrial dispersal program.

Lt. Gen. Willard Paul (Ret.), the Office of Defense Mobilization's top industrial and civil defense authority, puts it this way: "When we deprive an enemy of profitable targets, we actually deprive him of striking power. If, for example, a profitable target can be dispersed so that it takes three times the effort to destroy it, the enemy must send out three times as much striking power."

There's even more behind dispersal than that. It's possible that, within a few years, the jet bomber may be obsolete as a means of delivering nuclear explosives. A potential enemy may then be able to launch an intercontinental ballistic missile, equipped with a thermonuclear warhead, able to travel 5,000 miles to U.S. territory in minutes. No counter-weapon has yet been developed to take care of that kind of attack, and chances are none will be until some time after intercontinental missiles come into being. The only answer defense experts have today is target dispersal.

• **One by One**—Neither Gen. Paul nor anyone else in Washington is thinking of moving Pittsburghs and Detroits out into the Western plains. The idea behind the government's program is merely to see to it, if possible, that new plant building goes on away from critical target areas.

To this end, the government has had a formal National Dispersal Policy since 1951. This provides that if a company builds at least 10 mi. from designated target areas, it may qualify for a five-year tax writeoff or a defense loan. As

a result, most of the \$29.9-billion worth of new defense plant built since the Korean War is, by the 10-mi. standard, dispersed.

The H-bomb and its fallout now cast doubt on the value of this standard. An interagency government committee, headed by Gen. Paul, is consequently drafting a new dispersal policy. It's doubtful that this will involve a new mileage yardstick; probably each new plant proposal from now on will be considered on its own merits. Such factors as terrain and prevailing winds will probably figure in the decisions.

Meanwhile, ODM's director, Arthur S. Flemming, has recommended that an independent body something like the Hoover Commission be set up to study dispersal in all its ramifications. Congress hasn't taken any action on the idea yet, but it's likely that the Joint Atomic Energy Committee will take it up.

• **Dynamite**—The whole matter of dispersal is loaded with political dynamite; that's why Flemming would like someone else to take a hand in it. The average city is interested not in seeing industry keep its distance, but in attracting all the industry it can get.

Plattsburg, N.Y., for instance, is seriously worried about the economic implications of a new bomber base being built nearby. Will this base put Plattsburg on the critical target list? And will this mean that the government will encourage industry to stay away from Plattsburg? If so, the government program runs directly counter to Plattsburg's program of building its economic muscle.

Such differences of aim will have to be resolved somehow. The government,

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at any rate, feels the dispersal program is nowhere near the end of its job. Some three-fourths of the Pentagon's potential wartime suppliers are still concentrated in 22 target cities, despite years of dispersal effort.

• **The Patient**—Industry itself has viewed these proceedings with mixed feelings. The government has sponsored organization of roughly 70 "Industrial Dispersal Committees," often under the chambers of commerce or similar business groups. These committees advise companies on dispersal problems and do much of the secretarial work connected with applying for fast writeoffs and defense loans. Some have had many customers; others have had few.

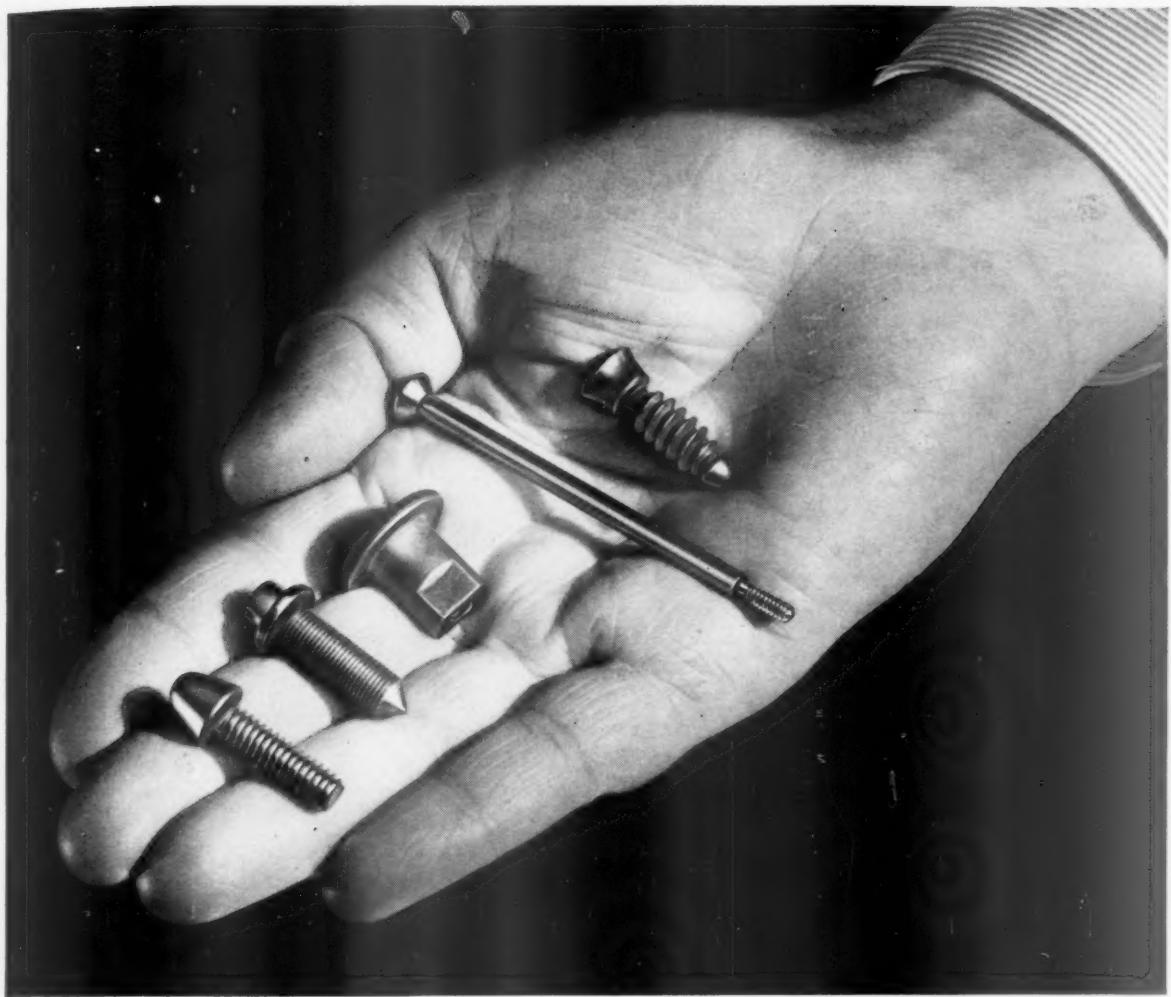
The New York City dispersal committee has had "disappointingly few" applicants at its door. Apparently companies feel that moving out of the New York target area puts you at a heavy competitive disadvantage; you run into problems of transportation, supply, and the like. By contrast, the San Francisco Bay Area Council, nine-county group with a dispersal plan of three years' standing, has had fair success. Industry has proved amenable to the council's suggestions, and has built outside the target boundary with little grumbling.

• **Defense**—The government has tried to encourage industry to take other measures besides dispersal, with equally mixed results. Among companies that have given ear most attentively to the government's advice are Koppers Co. and American Machine & Foundry Co.

Koppers has designated a "reorganization point" at which key executives and operating personnel would meet after an attack on downtown Pittsburgh, where the company's main offices are. In two bank vaults outside the city are microfilm duplicates of essential company records, together with a roster outlining a succession scheme for executives in case of casualties. The vaults also contain a meticulously worked-out plan by which the company's operations are to be kept going in the emergency.

American Machine & Foundry has worked out a system by which, it feels, it can roll with any punch. The basis of the scheme is flexibility. AMF has not drawn up a fine blueprint, but has tried to set things up so that, with a little adaptive thinking, it can adjust to any contingency.

The company has arranged to switch almost overnight from civilian to military production (BW—Feb. 27 '54, p.100). It has also worked out plans by which its operations can continue even if it suffers heavy losses in plant and personnel. A small group of personnel in each plant is being trained to take over the duties of those at some other plant. Plants are working out alternate sources of fuel and water.



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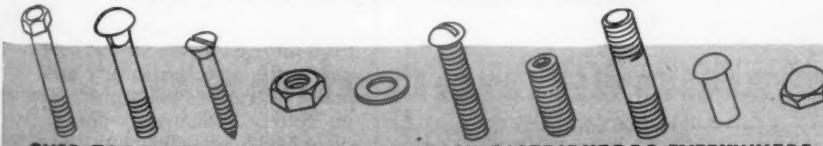
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LOCAL BUSINESS

Crazy About the A's

KANSAS CITY—Kansas City this week turned out to hail a last-place major league baseball club as though it were nothing less than a World Series winner.

Within a few hours after reserved seats for this week's opening games of the Kansas City Athletics went on sale, long lines of fans had bought practically all the tickets. On Monday, the team's arrival for the start of the season was greeted with a giant street parade and a two-hour Baseballarama at night. Tuesday's opening day ceremonies were slated to be repeated on Wednesday, just so the crowds that couldn't jam their way into the new 35,000-seat stadium on the first day wouldn't feel left out.

The Athletics, which were brought here from Philadelphia last winter by Chicago businessman Arnold Johnson, hardly set the spring-training circuit afire. (Their record: nine wins, 12 losses against other major league teams.) But that didn't cool the fever-pitch enthusiasm for the new club. One downtown hotel has remodeled its supper club into The Ballpark Room, night clubs have changed their names to work in the word Athletics or A's, street cleaners, utility repairmen, and delivery truck drivers are wearing A's baseball caps on orders from city officials or company managers. In less than 15 weeks—through the year's worst building weather—the city tore down the old Kansas City Blues' minor league stadium, replaced it with a new two-deck stadium in time to get the schedule under way without a hitch.

So far, the only ruffle has been a charge that Johnson himself has very little money in the club, though he stands to make handsome profits from it. Johnson has vehemently denied this, says he intends to spend unlimited funds to get players who will give the city a winning club.

More Fertilizer

MEMPHIS—The sharp-edged competition in the business of selling anhydrous ammonia for fertilizer has started a Memphis company importing the chemical from Houston by barge.

Three months ago, Grace Chemical Co. opened a new plant here to produce 250 tons of anhydrous ammonia a day. Farm use of the chemical, which is 82% nitrogen by weight, has been growing rapidly here, particularly since tight federal acreage controls put a premium on getting maximum yields per acre. Now Mid-South Chemical Co., a local distributor, has taken to barging in the



"Give me where
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In the roster of the glorious Greeks, Archimedes stands with the greatest. For he laid out the systems of dynamics . . . the science of bodies in motion . . . and laid the foundations of Mechanical Engineering.

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Because this vital profession is so far-reaching, no one man can encompass every part of it. Acting as storehouse of this accumulated knowledge—and spearheading the critical task of achieving tolerable systems of *standards* in such varied things as bolts, belts and boilers—is his society, the American Society of Mechanical Engineers.

This year, the A.S.M.E. is seventy-five years old. Of its fine record of achievement, it can be justly proud. And Combustion Engineering—which for generations has been benefited by, and in some measure has contributed to, the work of the society—is delighted to wish the A.S.M.E. a happy diamond anniversary.

B-818

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SOUND TALK

by
Carl W. Lemmerman

OUR HUSH HOUSE QUIETED THIS NOISY NEIGHBOR

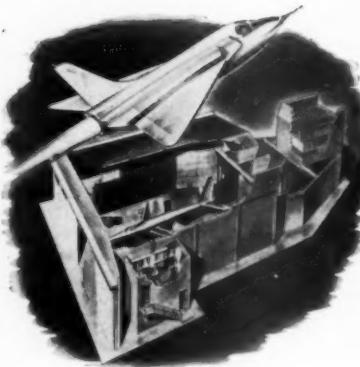
A prominent West Coast aircraft manufacturer had a touchy community relations problem. Production quotas required that testing of jet aircraft be carried on at night as well as during the day. But the terrific roar was keeping neighbors awake, rapidly souring the community's attitude toward the company. There were even rumors of a court injunction. Naturally, too, the situation in the test ramp area where the noise originated was extremely bad, with spoken communication virtually impossible. Something had to be done.

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In answer to a call for help, ISC "Silence Service" engineers sound-surveyed the plant, ascertained that a separate, permanent test hanger was required. Design work was begun immediately on a custom-made testing facility large enough to house a jet fighter.

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chemical. Its initial load arrived last week, the first time, Mid-South says, that anhydrous has ever moved by barge over inland waterways.

Mid-South has been buying supplies of the chemical from Grace, but it says it hasn't been able to get enough that way to satisfy its orders. By using barge from Houston, it hopes to be able to cut its freight costs to about \$12 a ton, compared with the \$14 it would have to pay for rail shipments under a freight equalization formula.

Bargain Parking Fine

LA MESA, CALIF.—After a two-week trial, the city of La Mesa is ready to chalk up on-the-spot bargain rates for overtime parking as a success.

The system involves a special box attached to one parking meter in each block of the downtown area. Motorists ticketed for overtime parking can drop their citations in the box along with 50¢. This saves them from having to go to police headquarters to post \$1 bail. The only catch is the coin has to be put in the box on the date of the citation.

So far, City Manager Lester Halcomb says, three-fourths of the motorists cited for overtime parking have used the new system. The Chamber of Commerce is for it, too, because it causes less annoyance to shoppers.

Number, Please

DENVER—A Denver caterer has asked the Colorado Public Utilities Commission to force Mountain States Telephone & Telegraph Co. to issue its directories on a regular schedule.

The caterer was left out of the phone book that was distributed last November. The company had been issuing directories every six months, but now it says it will hold off on a new edition until next fall. Its reason: a suburban exchange that will be cut directly into the Denver system at that time.

The caterer's argument is that he and others are being discriminated against, and that state law provides that no public utility can alter service without adequate notice to its customers. The company says all it has to do is issue directories "necessary for the efficient use of the service." It maintains it has always put out the books irregularly.

Scandal in the Wind

COLUMBUS, OHIO—What started out as nothing more than a hard windstorm on the second day of spring has wound up by blowing up one of the biggest housing investigations in the history of this city.

The whole thing started on Mar. 22 when a windstorm drove furnace fumes



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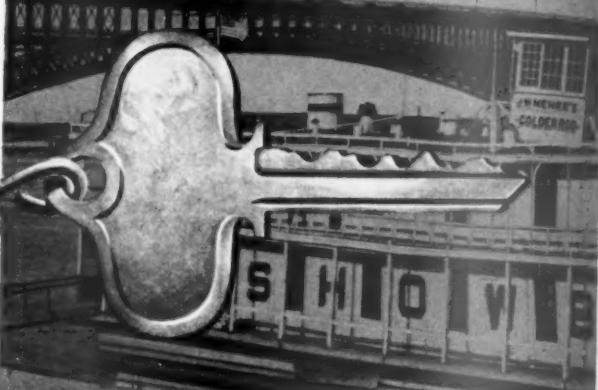
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BUSIN

back down chimneys and forced the temporary evacuation of 15 houses in a 219-home veterans housing project in suburban North Linden. When city firemen and Assistant Safety Director William L. Lehman toured the project, they were overwhelmed with complaints from owners who had bought the \$11,000-\$12,000 homes with Veterans Administration loans, starting in 1953. Residents pointed to roofs separating from walls, shingles nailed over open areas, grades sloping toward the houses, and water collecting in perimeter heating pipes.

An immediate probe launched by Lehman brought out that a compliance inspector appointed by the Veterans Administration to see that plans and specifications were followed was paid for his work by the contractors. Both the VA and the Federal Bureau of Investigation then entered the probe. One result was a pledge by William H. Davis, builder of the project, to correct all structural faults found in any of the 219 houses.

Meanwhile, though, the affair had blown into such a scandal that Federal Judge Mell G. Underwood ordered a grand jury investigation of all GI housing in the Columbus area. The jury was slated to hold its first session this week.

Perambulating Festival

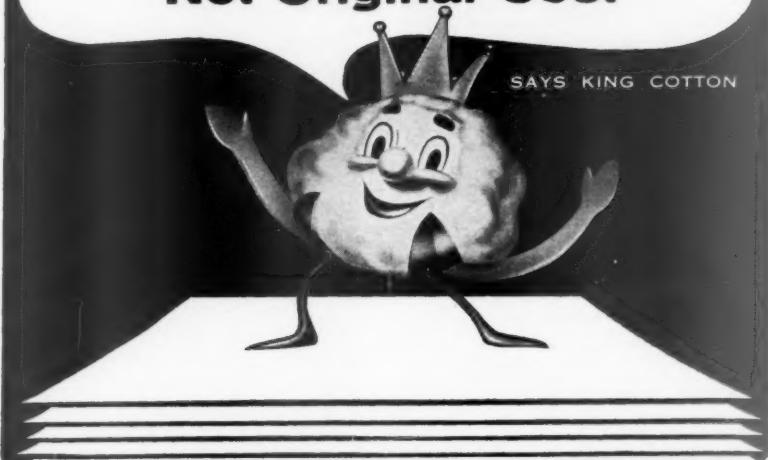
BIRMINGHAM—The idea of a Dixie Centennial—a sort of four-year World's Fair to run from 1961 to 1965—is beginning to look like more than just an idea.

The Centennial, which would mark the anniversary of the Civil War years, was first proposed at a meeting of businessmen and civic leaders last year at Fontana Dam, N. C. An interim committee to get the plan started was set up then. Now a call has gone out to all the southern states to send representatives to Montgomery, Ala., next Sept. 19 to put together a permanent organization.

Up to now, the sponsors of the Centennial plan have talked in terms of an exposition that would move from state to state. They say the theme would not be one of magnolias and battlefields, but rather play up the growth of the South since Reconstruction, with particular emphasis on the last 25 years.

Just where the exposition would start, though, is already the cause of some argument. The committee representative from South Carolina thinks it ought to be Charleston, where the first shots of the war were fired on Fort Sumter. The Montgomery committeeman thinks it ought to be Montgomery, the first capital of the Confederacy, and the place from which the order was sent to begin firing on Sumter.

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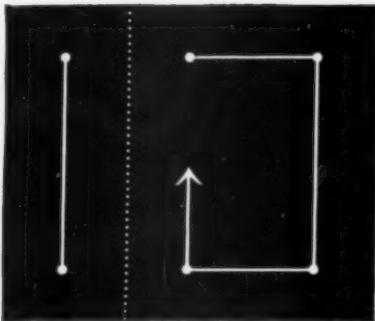
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NEW JOB FOR CHEMICALS:

Making Dirt Stick To

To farmers, oil drillers, and construction men, loose soil like that in the left hand (picture above) can mean trouble and lots of it. On a farm, it blows away; in an oil well or a building excavation, it encourages seepage of surface water, or it may even cave in.

Last week, two chemical companies announced ways to make loose soil particles stick together as in the cake in the right hand (picture above). Each company aims at a different aspect of the problem:

For farms, Dowell, Inc., of Tulsa is testing a spray that does the job shown in the picture. Sprayed over the surface of a field, the chemical mixture forms a thin, hard crust that prevents wind erosion yet allows water to percolate through and plants to grow.

For construction projects—such as tunnels, building excavations, well holes, and irrigation ditches—American Cyan-

mid Co. is promoting a chemical that forms a tough gel and seals water in or out of the hole, as desired.

I. On the Farm

Dowell, Inc., a subsidiary of Dow Chemical Co., tested its process last week in a part of Oklahoma where the soil is typical of that in the great Dust Bowl. The earth is sandy, with light, loose granules that the wind can whip up into a dust storm. As the soil blows away, it leaves ruined fields behind; wherever it lands in large enough volume, it destroys crops there, too.

The trouble is chiefly with the surface soil—a handful of earth from a few inches down can be compacted in the hand. Therefore, farmers combat wind erosion by deep-plowing their land. However, this costs about \$10 an acre and is effective for only about three

years that or so.

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years at the most—with no assurance that it will work for more than a month or so.

Arthur Park, Dowell's chemist in charge of soil consolidation, worked out a chemical spray that also costs about \$10 an acre but appears likely to be surely effective from one plowing to the next. The spray could also contain fertilizers and weed killers that the farmer intended to use anyway.

• **To Be Perfected**—Dowell isn't completely satisfied yet with the process. J. J. Staudt, vice-president and director of the company, plans on another year of laboratory work and field testing. After that, he sees a tremendous market potential. He says it shouldn't be hard to interest the farmer in an investment that may make the difference between a return of \$80 an acre or none at all.

Although Dowell is working on the process, it doesn't expect to go into the

farm service business. Use of the sprays on a commercial scale will, however, mean a new market for the parent Dow company, which produces the chemicals.

• **Sideline**—Park's experiments with the chemical spray came about because Dowell, Inc., encourages its chemists to work on their pet ideas between regular assignments. Park got interested in exploring surface applications for the sodium silicate he was studying for use in oil wells. He figured that if the chemical was able to harden the earth underground, it could do the same on the surface.

He found that the silicate was harmless to farmland, but he hit one snag right at the start. He found that the stuff would solidify only if the air contained a certain amount of carbon dioxide.

To make up for the lack of carbon dioxide, Park and his aides worked out a two-stage spray. The first spray coats the earth with sulfates or phosphoric acid; it causes the second spray, of sodium silicate, to harden as it does underground.

• **No Fancy Equipment**—Last week's test was run off in the peanut and cotton lands of western Oklahoma, with cooperation of Oklahoma A&M. The selected field is known to be prone to dustiness.

Park's crew moved in with equipment that any dirt farmer has or could easily rig up: a Ford tractor, a gasoline-powered pump rated at 100-lb. pressure, and a spray boom that covers a 9-ft. swath.

A spray job needs a curing period of about three days, the crew had estimated, yet it wasn't damaged by 1½ inches of rain only 12 hours after one test application. Rain water permeates the crust without difficulty.

II. Holes and Trenches

At last week's semiannual meeting of the American Chemical Society in Cincinnati, J. P. Gnaedinger, president of Soil Testing Services, Inc., of Chicago told of several successful uses for American Cyanamid's Stabilizer AM-955.

AM-955, in solution, is mixed with the soil around an oil well, an irrigation ditch, a tunnel, or a basement excavation. It has one drawback: It is highly poisonous. One exposure to it, even a long one, is said to be harmless, but frequent exposures, even short ones, are deadly. Consequently, the chemical will not be introduced to the general public. Company experts have to follow up on sales even to customers who presumably are qualified to use the stuff, such as consulting engineers and specialized contractors.

• **Benefits**—Gnaedinger told of uses of AM-955 that justify the necessary pre-

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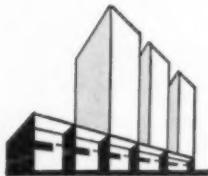
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FACTOGRAPH

The Hotel Industry

NO. 4 OF A SERIES



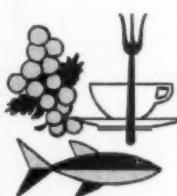
Hotels are big business. In sales volume, this industry is the nation's seventh largest, grossing in excess of \$2 billion annually. The physical plant is valued at more than \$7 billion and includes upwards of 1,500,000 rooms. More than 260 million guests are accommodated in a single year. Add to this the closely allied motel industry and you are really talking in big figures. Since 1942 the number of motels has increased from 10,000 to about 51,000. Gross income for 1953 was \$1.5 billion and is increasing at the rate of \$100 million a year.



It takes a lot of linen and laundering to keep hotel guests happy and employees' uniforms fresh. Hotels spend \$24 million a year for linens and another \$45 million to launder them. A laundry in a typical hotel could easily serve a town of 20,000 and handle five tons of soiled linens in a 8 hour day. With modern equipment, one girl irons 50 shirts an hour. Flatwork is ironed and folded at tremendous speed. Troy Laundry Machinery, a division of A. M. & M., supplies hotels with washing, drying, ironing, pressing and automatic folding machines to handle these huge work loads.



Did you know that conventions are known in the trade as "group business?" Some ten million convention guests visit hotels every year. They are responsible for a good share of the \$265 million spent annually on beverages in hotels. To insure accurate dispensing of liquor, safeguard quality and provide a dependable sales-inventory control, many hotels have installed the dispensing equipment made by Autobar Systems, a division of A. M. & M.



Most of the hotel industry's income is from room sales, which accounts for \$1 billion. But income from food served is also important . . . some \$735 million or about 32.9% of the hotel income dollar. And did you ever notice that in a good hotel you're never aware of the odor of food in preparation? Modern hotel kitchens are equipped with De Bothezat Fans for the fast, efficient removal of cooking odors, smoke and stale air. De Bothezat Fans are made by another division of A. M. & M.

19

American Machine and Metals, Inc. comprises nine divisions. Each manufactures a specific product or line of related products and each has been serving industry from a score of years to more than a century. All divisions benefit materially from the interchange of ideas, experience, know-how and facilities of the entire group. This plan of operation has proved remarkably advantageous, not only to the company, but also to the customers of all divisions.



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NEW YORK, N. Y.

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• TROUT MINING • TROY LAUNDRY MACHINERY • AUTOBAR DISPENSER SYSTEMS

cautions. For example, Soil Testing Services was called in to study a seepage problem at Chicago's downtown bus terminal, which extends 20 ft. below the nearby Chicago River. The company pumped AM-955 into the soil under the concrete of the terminal at points where water was seeping in. Overnight the chemical set, and the floor was dry the next day.

AM-955 also finds use in oil wells. During drilling, expensive drilling mud is often lost through the sides of the hole, and salt water can also flood in from rock strata. Chemical stabilizers are used to seal the sides of well holes. In the same way, it can also seal the circumference of a tunnel that's being driven through sand or light soil, with problems of seepage or cave-ins.

Irrigation ditches are another market for large-scale use of stabilizers such as AM-955. Today, only about 5% of the irrigation canal mileage in the country has any kind of hard-surface lining, and about 30% of the water is lost by seepage before it reaches the crop lands.

The Agriculture Dept. is now testing AM-955 at its Logan (Utah) Laboratory, and results so far indicate that the chemical would be useful in lining irrigation canals.

PRODUCTION BRIEFS

A new home for the Engineering Societies of America hasn't been found yet (BW-Febr. 12 '55, p 69), and competition to land them is still keen. Last week, the Mellon Family of Pittsburgh pledged \$500,000 for research by the societies if they decide to move to Pittsburgh from New York. This brings Pittsburgh offers to a total of \$2-million. In New York, the societies say that they're still thinking, but have reached no decision.

An electronic system of inventory control will be installed in B. F. Goodrich's Watertown (Mass.) plant. Teleregister Corp., which makes the Magnetronic Inventory System, says it's the first of its kind in the rubber industry. The unit "remembers" amounts on hand, amounts committed on future orders, and will signal when the demand for any item exceeds the supply.

Lockheed's new jet trainer for the Navy can fly at over 600 mph., but has a landing speed of only 97 mph. Lockheed says the craft's maneuverability is a result of Boundary Layer Control, a system that forces streams of compressed air over the wing's control surfaces, gives added lift at low speeds. The company says this is the first U.S. airplane with Boundary Layer Control to get into full scale production.

An ENGLISH VIEW of packaging adhesives

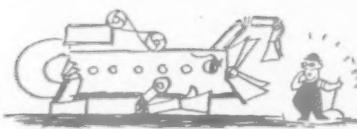
We thought you might be interested in reading this message to the recent English Packaging Show. It was prepared by our associate company: National Adhesives Ltd., Slough, Bucks.



Perhaps you are not old enough to remember the time when the grocer weighed out the $\frac{1}{4}$ lb. of tea, or the 1 lb. of sugar on a plain sheet of paper, which he then folded and tucked in at the ends. But old or young, you have certainly witnessed a vast expansion in the quantity of pre-packed goods and a great improvement in the quality of the packs.

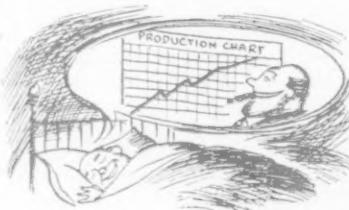


This expansion has promoted a demand for new and better packaging materials, and for faster and more accurate machines to make, fill and close the packs. And, oh! yes—adhesives! Too often, alas, the adhesive has been an afterthought: the machine installed and ready to go, and then a panic-stricken search for a suitable adhesive.



Today, package-makers and users alike appreciate the complex job of the adhesive maker: to stick the materials involved, to fit the machines and production methods, and to withstand conditions at the consumer end.

We, at National, formulate from more than a score of base materials (vegetable, animal and synthetic) and employ a vast range of additives in compounding adhesives to fit the job. We co-operate with machine and material suppliers, with package-makers and users, to secure that trouble-free running which is the aim of all who like to sleep peacefully at night.



Because of all the factors involved we at National insist—or should we say implore—that we be allowed to treat every individual problem on its merits. With few exceptions, adhesives cannot be bought from a catalogue. In giving you a list of some of the packaging jobs we handle, we

would stress that there are many omissions. Your problem is probably one we have solved already. In any case we shall be glad to hear about it. With our Research and Development Departments here, and our associated Companies in America, Canada and Holland, with whom we have full exchange of information, there are few jobs we cannot tackle.



Will you let us try?

There are lots of adhesive uses we could mention in addition to the regular day-to-day jobs, such as multi-wall sacks of polythene-coated kraft; drinking cups and straws, show-cards and display work. But enough has been said to indicate the wide field of usage covered by "National" adhesives. We have tackled many other jobs and there are always new ones being answered by our Service Department.

• • •

At the A.M.A. Packaging Convention in Chicago, April 18-21, we'd like to show how an international view of packaging adhesives can be of unique service to you. Plan to visit with us. Our booth is #950. You'll be welcome, too, at our suite in the Sheraton Hotel.

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PUSHBUTTON MIXER: Control panel at left runs all operations of concrete mixer in new ready-mix plant of Cleveland Builders Supply Co. (right). With this setup ...

Concrete Goes Automatic

The man at the electronic control panel in the picture at the left, above, is operating the country's first completely pushbutton plant for turning out mixed and ready-to-use concrete.

The new \$1-million plant of the Cleveland Builders Supply Co. on the Cuyahoga River (right-hand picture), which went into production last week, uses no manual labor at any point in the process. By the use of punched cards and electronic controls, it can turn out ready-mixed concrete under any one of some 1,500 different mixing formulas. The system of electronic controls was especially engineered and developed for the plant by Fairbanks, Morse & Co.

The plant also has a system of belt conveyors to carry the materials to the two material storage bins, from which the electronic controls direct them to the mixer as needed. The control system measures the drop—or extent of material fall—in each of the nine compartments in the two bins.

• **Gains**—Cleveland Builders Supply Co. expects the plant to turn out 125,000 to 150,000 cu. yd. of concrete this year. The company predicts that the pushbutton controls will give it some big advantages over the conventional, hand-control methods used in its three other plants:

• The new plant has a capacity of 200 cu. yd. of concrete per hour, against 100 cu. yd. per hour in the company's conventional plants.

• Quality control of the product will approach 100% accuracy. This means substantial savings; the company expects to save about \$12,000 per year

on the cost of cement, about \$4,000 on the cost of the aggregate (sand, coarse rock, slag, or other material) that goes into the mix.

• **Variances**—To serve its customers, Cleveland Builders Supply operates a fleet of 62 ready-mix trucks. Its ready-to-use concrete may go into these trucks under any one of the 1,500 formulas calling for different proportions, in terms of weight, of cement, aggregate, and water.

Under the conventional method of hand controls, the operator can depend for accuracy in measurement only upon his deftness in shutting off the supply of each material at just the moment that the weighing scales show the right amount.

At best, the amount of cement—the most expensive part of the mix—varies from the exact formula by 25 lb. in every 6 cu. yd., or 24,000 lb., of concrete. The variances for any one of the six types of aggregate are even wider. The variance may be either short of the formula, or over it; but since the average operator wants the company's customers to be happy, the difference usually favors the customer.

With the new electronic controls, the variance is reduced to a maximum of 4 lb. of cement in 6 cu. yd. of product, and to 10 lb. of aggregate and 6 lb. of water. That's where the savings will come in materials costs.

• **Tricks**—The new pushbutton control system can do some extra tricks in its spare time, too. It can measure, and compensate for, a plus or minus of moisture in the aggregate that goes into the mixer. And if the customer's

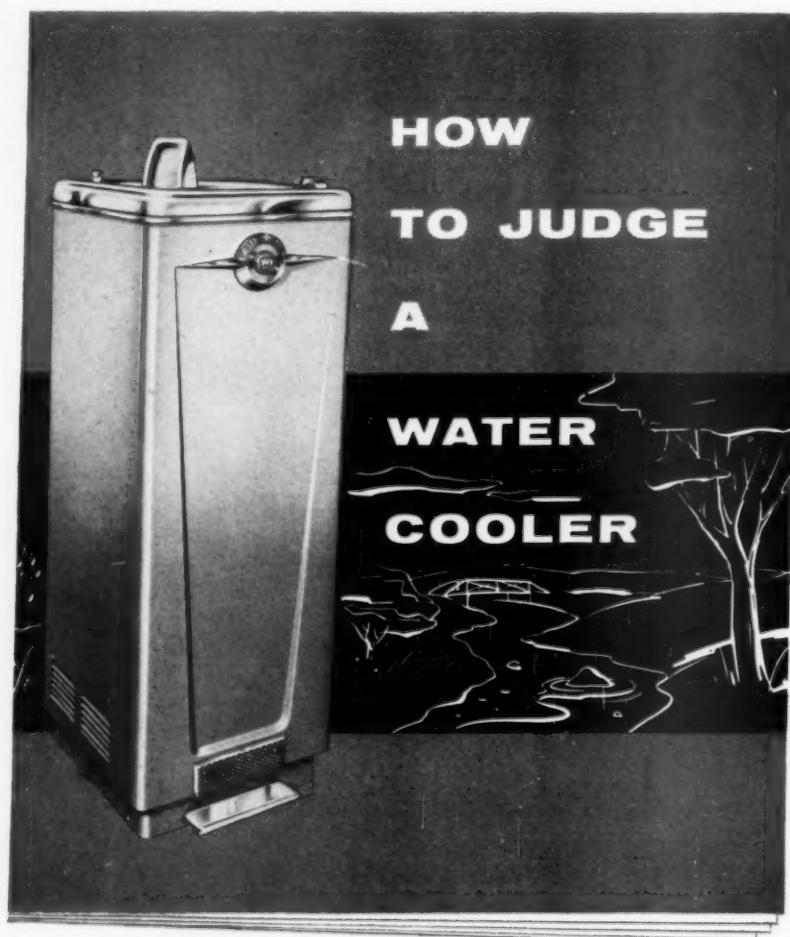


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order calls for a dry-mix, without water, the controls will automatically route the mixed, dry material to the waiting truck through a dry spout.

All these features make for savings. And there's a saving, too, in the use of punched cards to activate an electronic system, in place of an operator pulling levers.

• **Steps and Schedules**—The control panel (picture, page 80) that is the brains of the new plant's mixing operation is located in a glassed-in, bay-window overhang, 70 ft. above ground level in the 105-ft.-high plant.

The orders come in from the main-office in downtown Cleveland by teletype to the truck dispatching office near the plant gate. The dispatcher is in touch with the trucks by two-way radio; and he radios to the control operator in the bay window the amount of each order, the formula to be used, and the number of the ready-mix truck that will take it to the customer.

The control operator schedules production so that the material for each order will be in the mixer as the designated truck enters the plant gate. But just in case of a hitch, there's a standby holding bin to take the material if the truck fails to arrive.

When the mixing operator gets word the truck is on the way, he gets out the punched card bearing the right formula. The card, activating the electric mechanism, causes delivery to the mixer of the specified amount of any one of three types of cement. Next, the electronic controls shoot into the mixer any one of six types of aggregate—or any desired combination—plus the water.

The mixer needs only 15 seconds per cu. yd. of material for its mixing operation. Then the controls automatically tilt the machine to spill its contents into the waiting truck.

• **Unhuman Hands**—Automatic features run through the rest of the plant, too. Sand is dumped on the plant dock by self-unloading freighters. Materials, when needed, are moved by locomotive crane onto belt conveyors.

An electrical control panel directs the flow of the aggregate to the proper compartment in the 450-cu. yd. bin.

• **Necessity**—The plant came about more from necessity than any other reason. When Cleveland condemned for city use the sites of two former plants, the company got the only available location it could find. Once it had to build a new plant, the company went to work to make the best possible use of the new 3.2-acre site by introducing latest processing methods.

It did so well that besides the 54 ft. by 30 ft. mixing plant, the dispatcher's office, and truck washing stands, there is room for storage of 30,000 tons of sand and 45,000 tons of stone aggregate.

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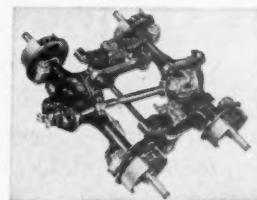
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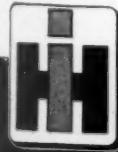
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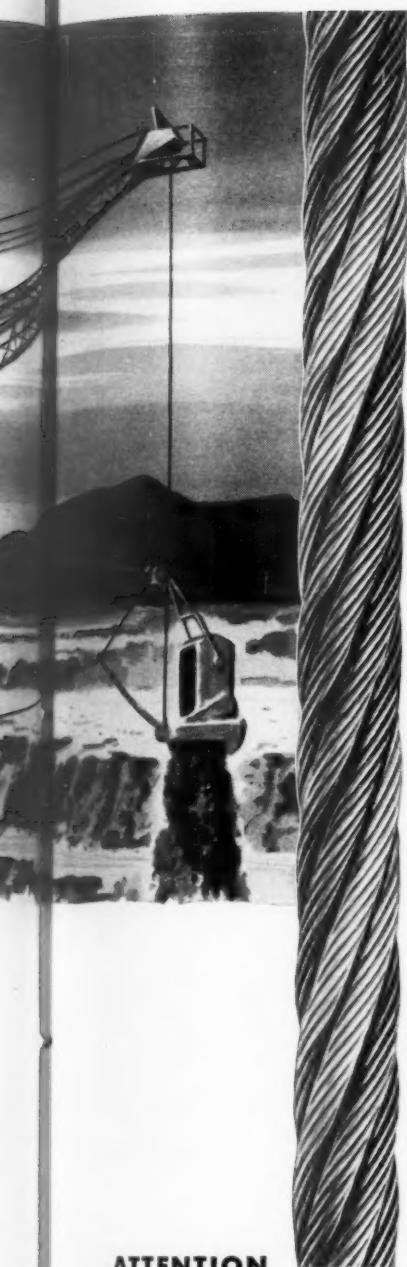
The secret of VHS is a new grade of high-carbon wire developed by new processing methods. ACCO engineers

and researchers worked for years to achieve their latest triumph—TRU-LAY and LAY-SET Preformed VHS.

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Until recently, military applications demanded nearly all our output of VHS. However, since World War II, limited quantities have been sold under close control for use in the construction, mining, logging and petroleum industries. Its performance has been spectacular!

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The sensational new VHS Wire Rope is now being marketed by ACCO's American Cable Division under the brand name TRU-LAY VHS—and by ACCO's Hazard Wire Rope Division under the brand name LAY-SET VHS. Buy or specify either with complete confidence. VHS ropes are identified by two adjacent green strands.



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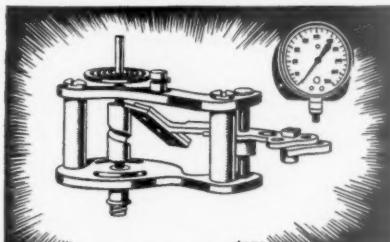
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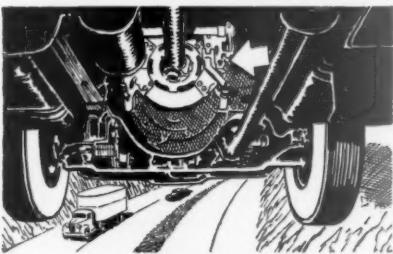
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NEW PRODUCTS

Ultrasonic Appliances

Ultrasonics, the high-powered industrial inspection and processing tool (BW—Jan. 15 '55, p168), is gradually finding its way into fields closer to the man in the street. Recently, two new foreign developments using ultrasound have been announced, one a therapeutic appliance, the other a washing machine.

The washing machine is a British invention, and looks like a big spinning top. The makers say it can be used in sinks, basins, or washtubs. The machine is electrically operated, produces 6,000 vibrations a minute that force soapy water back and forth through dirty clothes. The manufacturer, G. I. Development Ltd., 48 Moorgate, London E. C. 2, says that the Gnome Vibrator is easy on clothes and washes almost any fabric safely.

The new medical instrument, the Novavon, is made by the Max Lindacher Co., of Stuttgart-Zuffenhausen, Germany. It is described as an audio-acoustic therapeutic appliance, and is said to be useful in the treatment of rheumatism, gout, lumbago, inflammation of the joints, and muscular spasms.

Considerably more high-powered than its clothes washing cousin, this sound generator produces from 100 to 10,000 complete vibrations a second. These vibrations can penetrate as far as 2½ inches below the skin, says the maker, and provide a sort of soothing massage.

Elevators With a Voice

One of the last strongholds against operatorless elevators may soon be knocked down. Westinghouse Electric Corp. has a new device that puts the operator's "voice" back in the automatic elevator, while still leaving the pushbutton job of running the elevator to riders.

Automatic elevators have shot up over the past few years—they accounted for 92% of elevator sales in 1954 compared with 12.6% in 1950. Still, many customers balk at them. Some feel that people miss the familiar voice telling them to "Step to the rear of the car, please." Then there's the problem of non-pros who get into an automatic elevator and simply wait for something to happen.

• **Recorded Instructions** — Westinghouse's talking device is designed to overcome these obstacles. The gadget developed by the company's Elevator Div. consists of tape recorded instructions that tell passengers what to do if they seem to need help. The recording itself is stored in the elevator machine room at the top of the building and

is connected by cable to the elevator. The unit is connected to the elevator's automatic controls and also to a timer. If the passenger fails to take off on schedule, the timer notifies the voice, which advises the passenger to move away from the door, press his floor button, or whatever it is he should have done.

The new device will come only with Westinghouse elevators and each installation will be a custom job. The buyer will be able to choose the commands he wants his voice to give. In department store installations, for example, the voice can be geared to sing out floor number and the list of things you can buy there.

• Source: Westinghouse Electric Corp., Elevator Div., 9 Rockefeller Plaza, New York City.

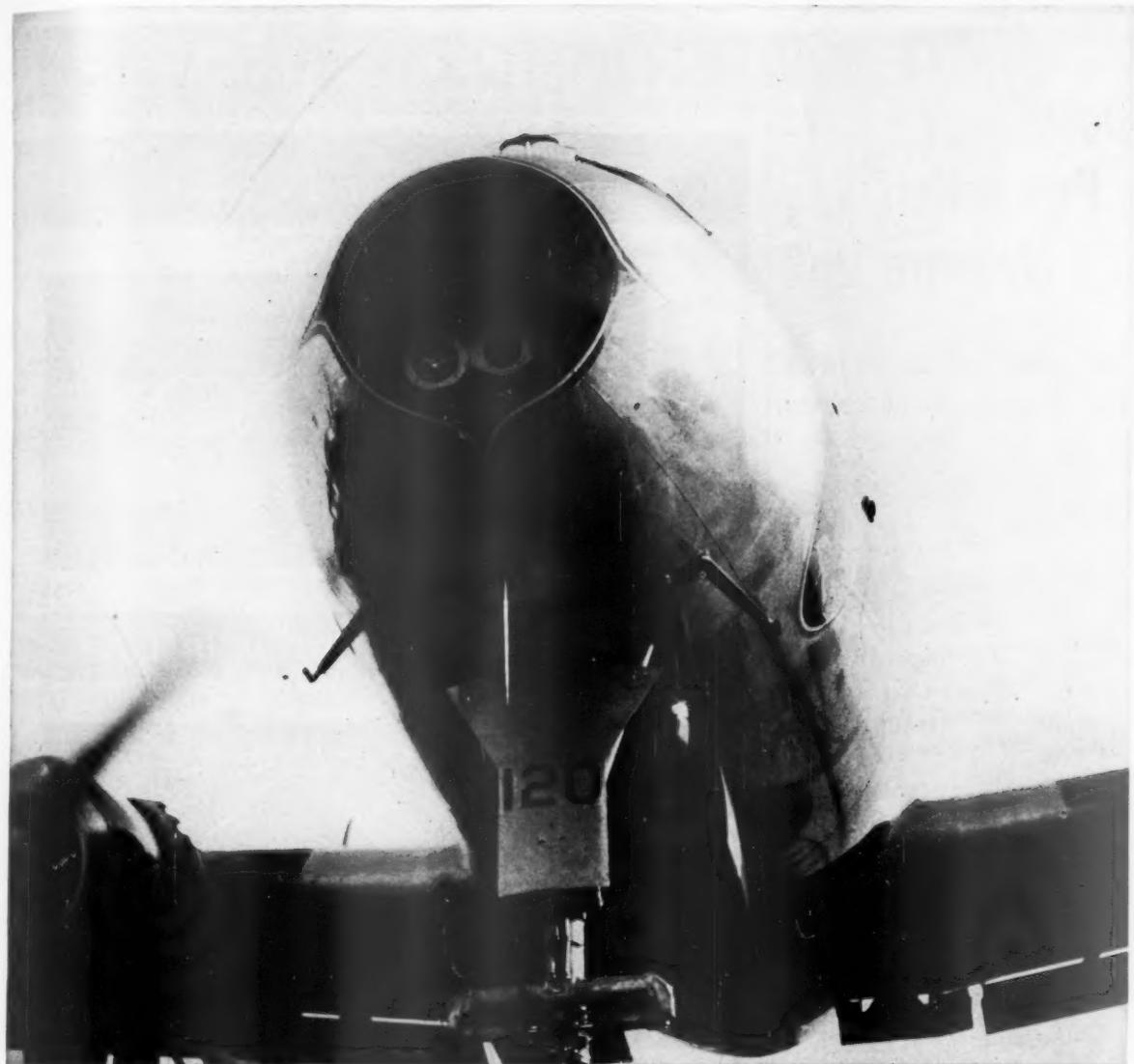
NEW PRODUCTS BRIEFS

Univac's big brother, Univac II, is said by Remington Rand to have double the speed and capacity of the earlier model. Univac II's magnetic memory can retain 24,000 characters; with additional cores, this can be raised to 120,000 characters. That's almost 10 times the memory capacity of Univac I, says Remington Rand.

Kitchen appliances can be colored at home. Sun Chemical Corp., 10th St and 44th Ave., Long Island City, N. Y., is making a high-gloss paint for refinishing appliances. The new paint comes in five colors that match the newest General Electric appliances, and will be marketed by dealers of both Sun Chemical Corp. and GE. Cost will run about \$2.30 a quart.

A tractor tire designed not to damage the soft soils of citrus orchards has been announced by U.S. Rubber Co. The Flotation Special has a thin flexible center section that cups inward, helping to keep the tire from pressing too far into the earth.

Bugs in stored food grains may be in for a tough time. American Machine & Foundry Co., 261 Madison Ave., New York 16, announces preliminary designs for commercial atomic radiation equipment to kill insects in food grains and keep potatoes from sprouting for 15 months. AMF plans mobile units for trucks and freight cars, semi-mobile ones for grain elevators. The instruments will be priced at around \$40,000, plus the cost of the cobalt radiation source.



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CHARTS OF THE WEEK

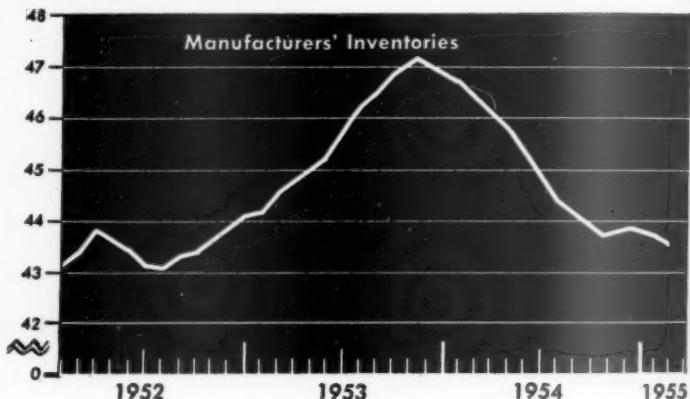
Rising Sales and Orders...

Billions of Dollars, Seasonally Adjusted



...Keep Inventories in Line

Billions of Dollars, Seasonally Adjusted



Data: Dept. of Commerce

©BUSINESS WEEK

Manufacturing Signs Point Up

Put together the February, 1955, movement of the three manufacturers' indicators — new orders, sales, and inventories — and you get a picture of increased activity that signals a continuation of the rising trend.

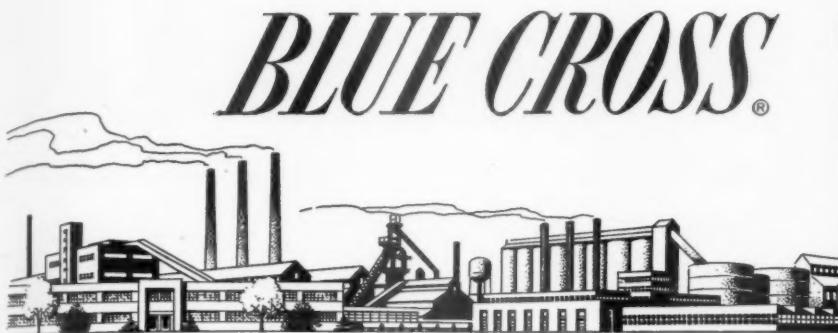
Manufacturers' sales climbed upward in February. On a seasonally adjusted basis, they reached a point 1.2% ahead of January, and 6.8% above February a year ago. The increase affected shipments of both hardgoods and softgoods; both ran 1% in excess of seasonal expectations. And the sharp rise in new orders — also ahead of seasonal expectations — indicated further sales increases to come.

The rise in manufacturers' new orders in February brought the total to \$25.3-billion — or, after adjustment for seasonal variation, \$25.7-billion. This is 3.6% more than the January figure, and a near-record for any month. It is a healthy 16.8% above the February, 1954, level.

Although production has been stepped up in recent months, this strong demand for manufactured goods keeps inventories bumping along at the new lower levels they reached about six months ago. February inventories were 7.4% under the peak reached in September, 1953; the figure actually was down almost to 1952 levels. Most ob-

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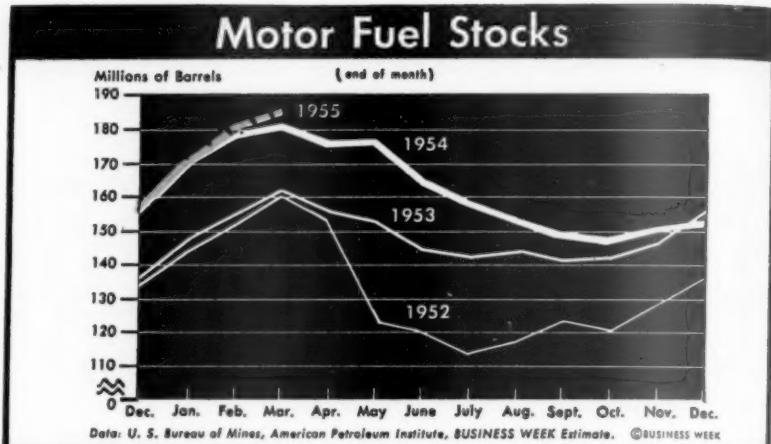
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servers see this as a sign that inventories are now at realistic levels and that the

liquidation that began at the end of 1953 has long been over.



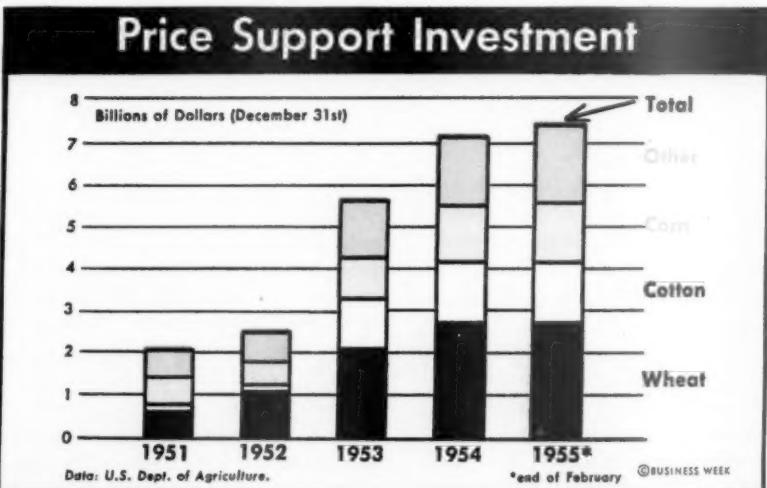
Climbing High Again

Latest estimates place gasoline stocks at the end of March close to 185-million bbl. — about 3% above March, 1954. The jump has brought fresh suggestions that stocks are too high. That's because the 3% increase comes on top of one of 12.4% from March, 1953, to March, 1954.

As the chart shows, inventories in

1953 didn't go down to their normal summer level. Because of that, 1953's year-end stocks were close to the peak for the year. And 1954 started with stocks 15% up over January, 1953.

While the inventories made that leap, domestic demand for gasoline in 1954 was only about 3% greater than the demand in 1953.

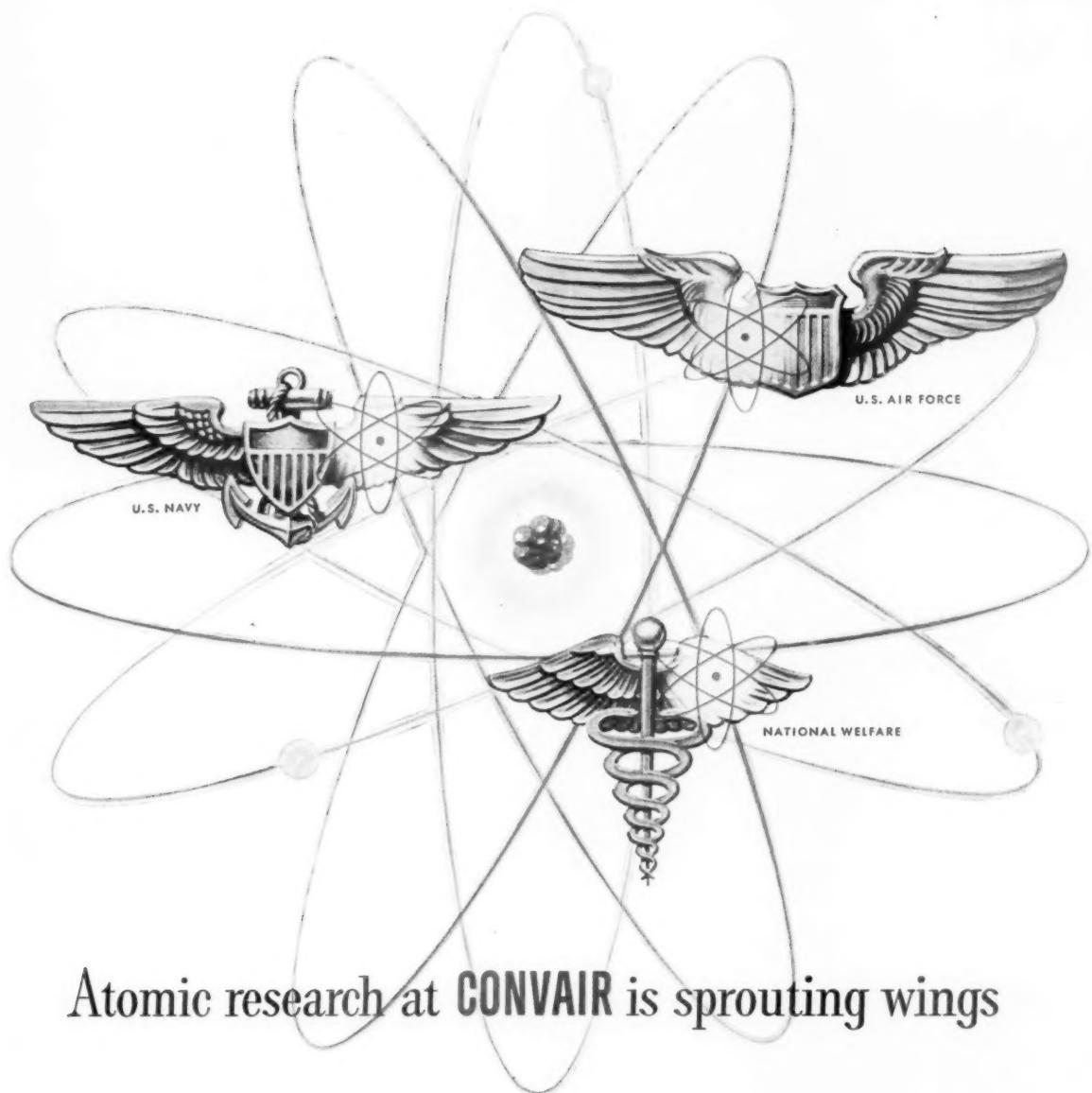


Mountains of Food Still Growing

The U.S. Agriculture Dept.'s investment in surplus farm products at the end of February reached a record \$7,440,156,000, the latest estimates show. That's a \$270-million increase since the end of 1954.

The buildup of surplus stocks from 1953 to 1954 was substantial, though it wasn't as large as in the previous year.

But if the \$270-million increase from the end of December through the end of February is any indication of what's to come throughout 1955, the warehouses will be bulging. Biggest item now in the warehouses is approximately 1-billion bushels of surplus wheat. It represents about 37% of the total investment in surplus food.



Atomic research at **CONVAIR** is sprouting wings

Convair's engineers and nuclear physicists are making bold strides toward the flight of atomic-powered aircraft.

At Fort Worth, with the largest staff of its kind in the industry, Convair is operating the first U. S. Air Force atomic reactor and laboratory. And at San Diego, Convair engineers are working toward the adaptation of nuclear energy for the development of other weapons systems.

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COMPANIES



The first step in the oil hunt was to mobilize supplies. On this hot strip of coast in southern Arabia, Americans and Arabs worked for 16 days in January unloading thousands of tons of equipment. LCTs (above) and rafts made from oil drums (right) shuttled between freighter and shore — carrying Jeeps, fuel, and drilling machinery.



Cities Service Tackles an A



OTHER JOBS were going on at the same time. Fresh water for bathhouses was carried from a central well every day, and pumped to a tank above roof.



FOOD was prepared and distributed fairly. In each plate, about 2 lb. of rice. Dishes were an innovation to the Arabs, accustomed to feeding from a community pot.

CASUAL
during
broken



Arabian Wildcat

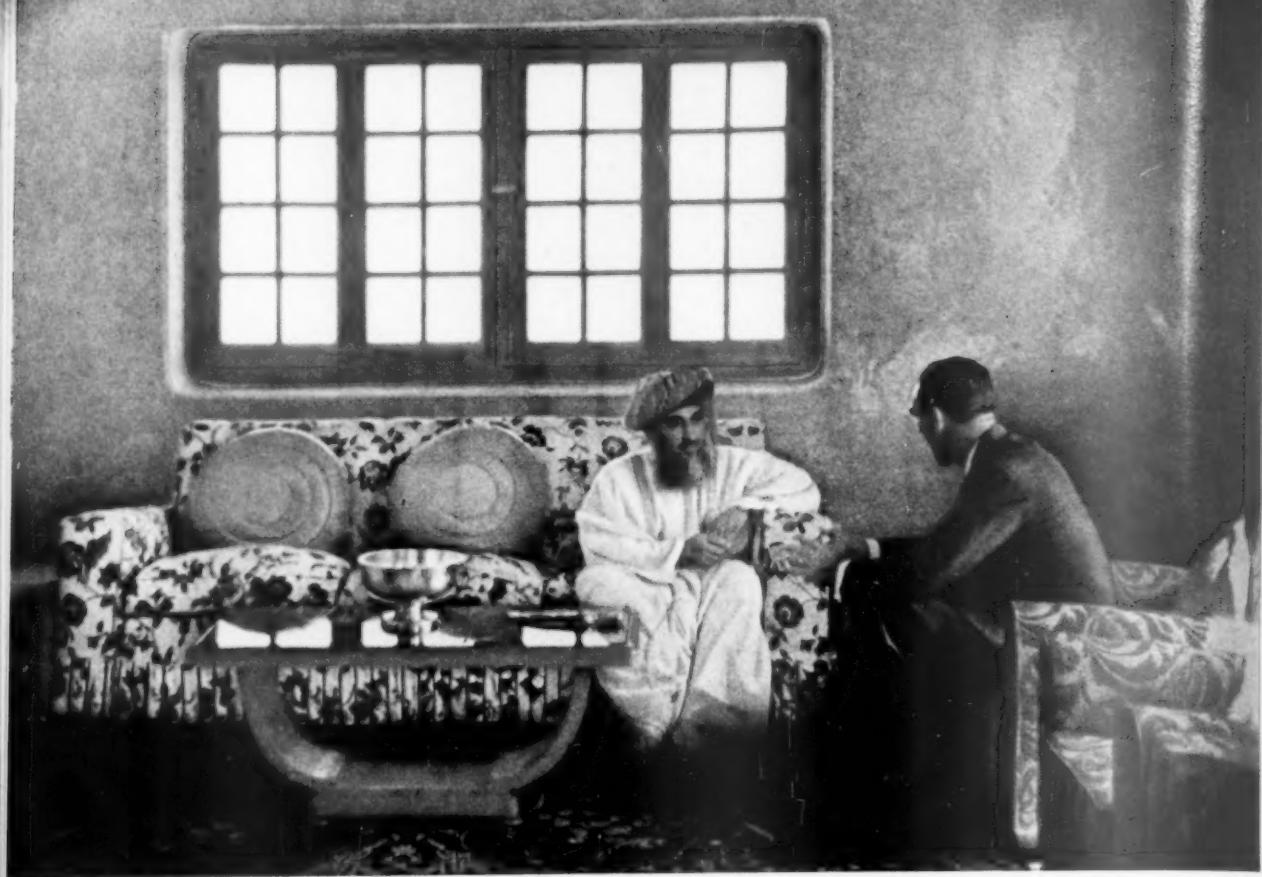
(Story continues on next page)



CASUALTIES were taken care of by a male nurse, who stood by during unloading operations. The most serious accident was a broken arm. This man had dropped a plank on his toe.

SECOND STEP was to build a highway through the mountains. Workers blasted this 35-mi. road back into the desert. The distance between the beach and drilling site is more than 100 mi.





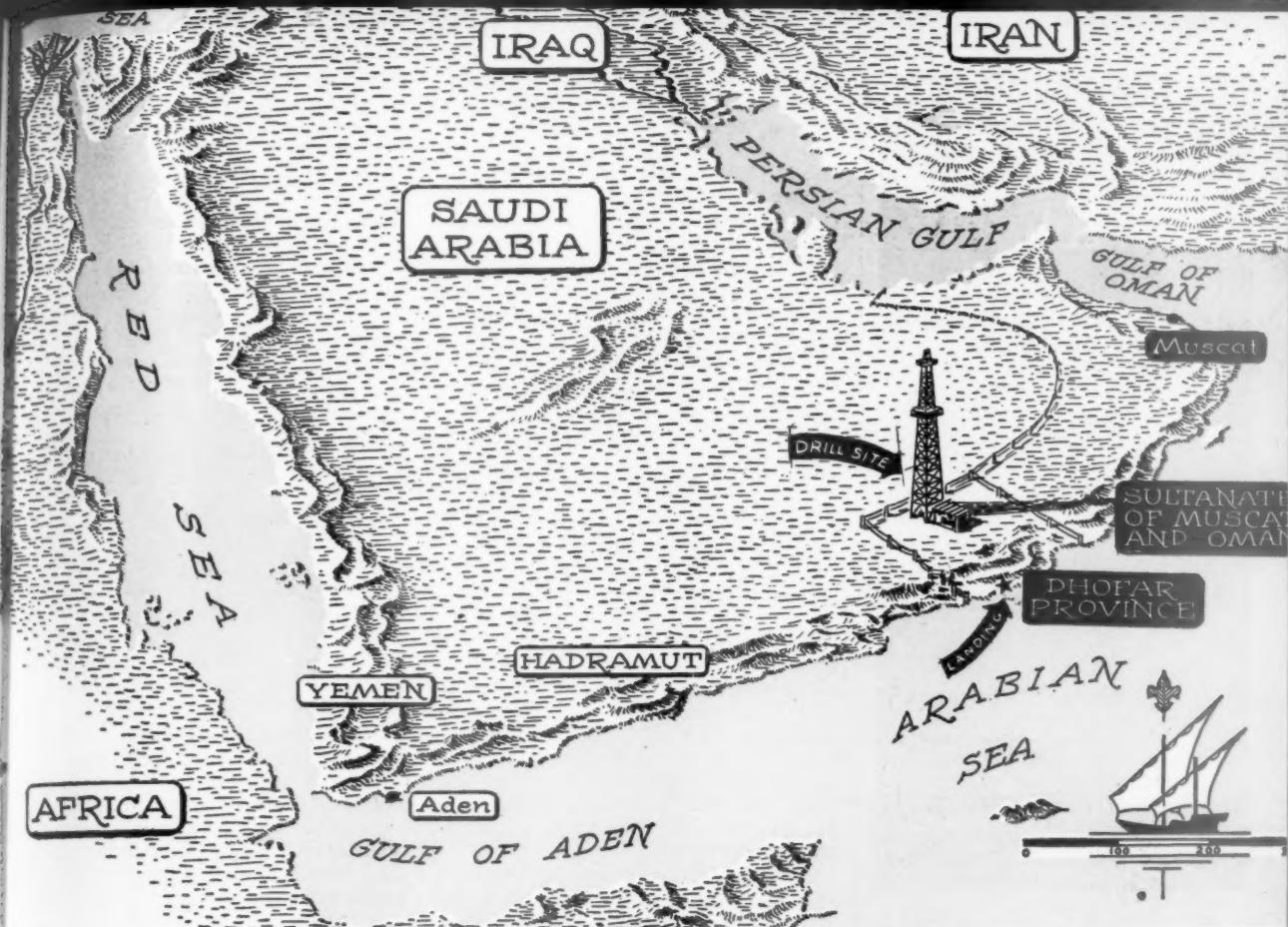
Edgar H. Clayton, head of the exploration project, gives a progress report to Sultan Said bin Taimur, ruler of Muscat and Oman (map).

(Story continues from previous page)

TARGET OF IT ALL: Chief geologist Wayne Sellon puts down a marker at drill site. By September, Cities Service should know whether Sellon guessed right.

The Sultan Gives His BL





Blessing to U.S. Oil Prospectors

For thousands of years, life has changed little in Dhofar. The men have fished in the Arabian Sea, or hunted gazelle on the fringes of the Qara Mountains. Few have known of an outside world, because the trading ships have skirted Dhofar on their trips to India and the Far East. None had ever docked, for there is no port. There is no reason for a port, for there is little in Dhofar to trade for goods from the outside world.

But this is changing. Dhofar may, indeed, have something that the world now needs. It may have oil.

This week in Dhofar, far back from the coast, on the desert side of the mountains, Americans and Arabs are drilling for oil. They will work at that site until September. Unless they are exceedingly lucky, they will pull their drill bit from the ground, fill their dry hole, and move on for a second try at another site, for you rarely bring in a wildcat well on the first try.

The pictures on these pages tell a part of the story of how those Americans reached their Middle East site: How they dumped 5,000 tons of oil field equipment onto a beach (cover),

then built a road through the mountains to get their equipment back into the desert.

The whole story began nearly 10 years ago, for it was then that the company that is running this project began to itch for a Middle East oil concession. The company: Cities Service Co., one of the oil industry's top 10 with consolidated gross income of \$826-million and consolidated net earnings of \$43-million last year. Even 10 years ago, it was one of the few major U.S. oil companies without a stake in the Middle East.

I. Out of Utilities

Cities Service had a lot to do before it could seriously consider an exploration project in that part of the world. First, it had to get out of the utilities business, and into oil with both feet.

For a company that had grown up as a public utility holding company—gas, light, electric railroads—this took a lot of untangling. It began to untangle in 1943, when the Securities & Exchange Commission told the company to take its choice: Either eliminate all

25 utility holdings and stay in the oil business, or keep its gas distribution facilities and get rid of such things as electric railroads, oil wells, and gas stations. It was not until last year that Cities Service sold its two remaining utilities holdings and got out of utilities completely.

Five years ago, when it had sold most of its utilities and began to function like an oil company, there were still more steps to take. Although Cities Service felt that it was ready to manage an overseas exploration venture, concessions at that late date were hard to find.

Companies like Standard Oil (N.J.), Standard Oil of California, Gulf Oil, and Texas Co. were far ahead of Cities Service. They had made their moves years before, and had made agreements with governments throughout the Middle East.

• **Explorer's Find**—But offers of concessions sometimes come from unexpected sources. Thus did Cities Service stumble upon Dhofar.

In 1949, a young archaeologist had come through Cities Service's executive offices in New York looking for funds to finance his organization. The archae-

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Where Quality is a Responsibility and Fair Dealing an Obligation

ologist, Wendell Phillips, and his group, the American Foundation for the Study of Man, were getting set to move into Africa and Arabia. Cities Service was one of 55 U.S. companies that helped finance those expeditions.

In October, 1952, Phillips returned. He had been to Dhofar, where his expedition uncovered the ruins of a temple that had been built before the time of Mohammed, the first time in Arabia that a pre-Islamic temple had been completely unveiled. But he departed from Dhofar with more than archaeological honors. He also carried the oil concession rights for the entire province, an area of 38,000 sq. mi. (This is slightly smaller than the state of Ohio.)

He had been granted the concession rights by Sultan Said bin Taimur, ruler of the Sultanate of Muscat and Oman, which includes within its boundaries the province of Dhofar. The oil company that wanted to talk Dhofar oil had to talk first with Wendell Phillips.

A number of U.S. oil companies, in addition to Cities Service, had helped finance the Phillips expeditions. When he returned to the U.S. in 1952, he talked with these companies about Dhofar oil. Cities Service said that it was interested.

- **Option**—Phillips arranged a meeting in London, for April, 1953, between the Sultan and the foreign operations head of Cities Service, R. V. Whetsel. At that meeting, Whetsel took an option on the Dhofar concession. The next month, May, 1953, Cities Service geologists flew into Dhofar for a preliminary look. On Sept. 18, 1953, the concession rights were transferred from Wendell Phillips to Cities Service Co. and Richfield Oil Corp., Los Angeles, the coholder of the concession rights. (Cities Service holds a 31% interest in Richfield.) Phillips retains a small interest in any oil that might be discovered.

Cities Service will not talk about its arrangement with the Sultan, except that it is required to make no payment to him until oil is discovered, and then only after its exploration costs have been paid off.

- **One of Three**—The Dhofar project is one of three that Cities Service currently has a stake in. The others are in Peru and Egypt. All three were undertaken by the company between September, 1953, and the following February.

These are the first projects that the company has engaged in outside the U.S. since 1927, when it ceased exploration activities in several Canadian provinces. However, the Dhofar project is the only one in the Middle East area that Cities Service is managing. Its other Middle East venture, in Egypt,

is a three-way deal. Continental Oil Co. runs the project; Cities Service and Richfield hold financial interests.

II. Management Team

When Cities Service was ready to take on the Dhofar project, it had to solve a management problem: Who was the man to run it? There were no men within the company who had managed projects in the Middle East. There were no men with experience in foreign operations to fill out the key slots on the drill crew. The company made three moves.

To head the project, Whetsel picked Edgar H. Clayton, 49, a petroleum engineer who had spent about half of his adult life—from 1938 to 1951—in foreign oil exploration: Peru, Brazil, Turkey, Greece, Iran. Through most of those years, he headed exploration projects for the Drilling & Exploration Co., Inc., Houston, one of the big contracting companies in the industry. Clayton thought that he had retired from the oil business in 1951: "Too many years away from my family." He sold his 2,000-acre cattle ranch in Florida when he took the Cities Service job.

Second, Cities Service made a deal with Clayton's old firm, Drilling & Exploration Co. Under the terms of their contract, Cities Service furnishes all equipment and supplies, D&E furnishes a drill crew.

Finally, to complete its team, Cities Service pulled two men from its parent company: Billie Caver, 35, who had gone to work for the company in the Southwest when he finished college, worked up through oilfield ranks; he is drilling superintendent and Clayton's right-hand man. The second man was Joseph Von Hatten, 34, a 10-year accountant from the New York office; he is chief accountant. From Phillips' departed archaeological expedition, the company hired one other American, Charles McCollum, made him head of construction and maintenance.

- **Fill In**—With these men—four from Cities Service and 13 from Drilling & Exploration—Cities Service can drill a hole. But, of course, it takes more men than these to hold an operation together. Because Dhofar is 700 mi. from a hospital, it takes a medical staff: one doctor and two nurses. It takes a plane and a pilot for trips to Aden, the last outpost (map, page 95), and short hops back into the desert. It takes geologists to tell you where to drill the hole. It takes unskilled and semiskilled laborers to help build the road, the barracks, to drive trucks and carry water.

For most of the laborers, Cities Service had to recruit in Aden. There, among its 80,000 people, Cities Service found men who had worked on road projects and driven trucks, for Aden

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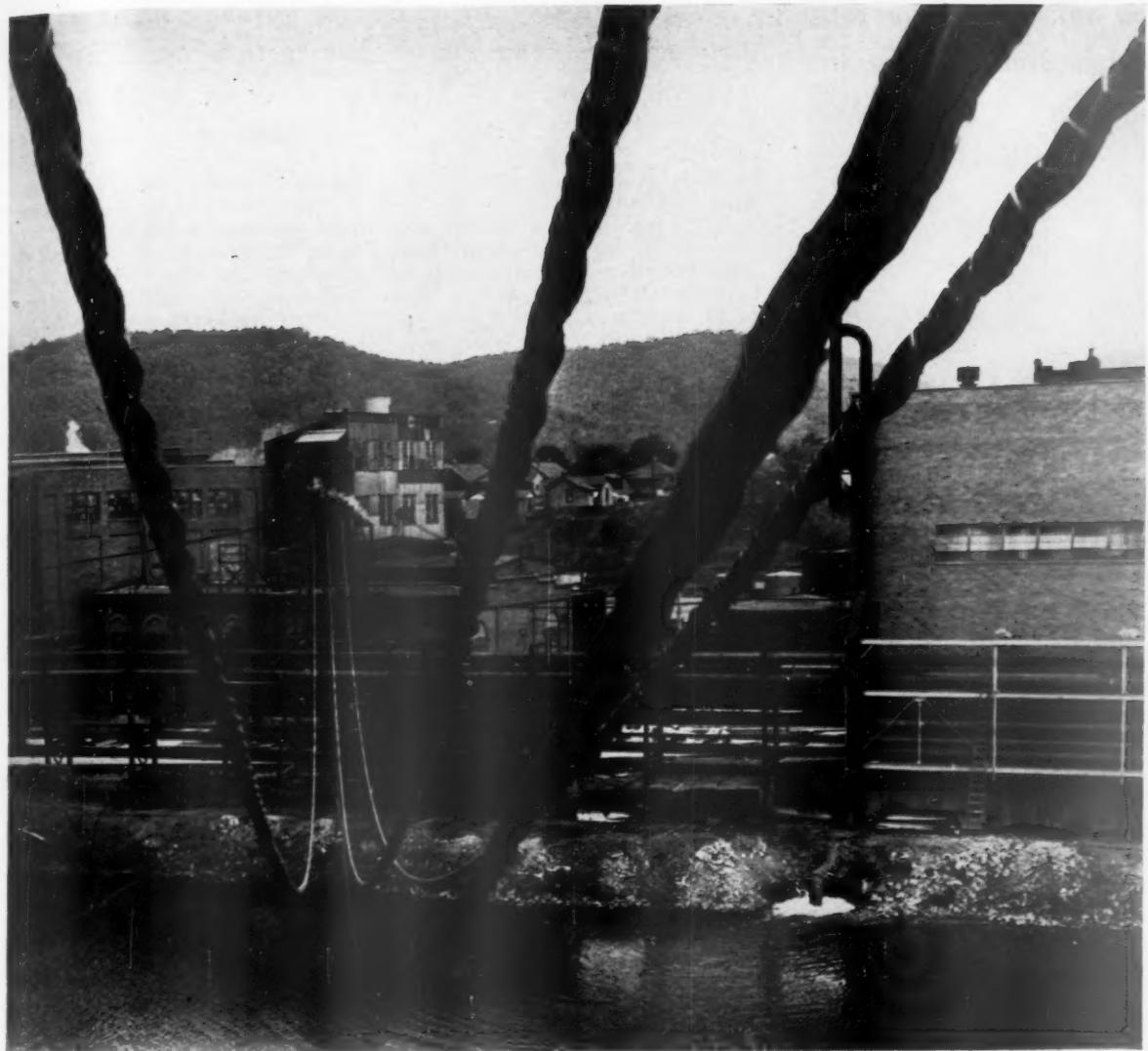
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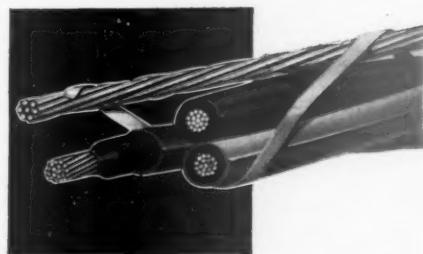
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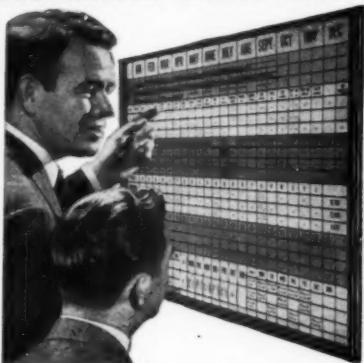
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"... by September, Cities Service will have spent several million dollars, and will be able to show one deep hole into the earth . . ."

CITIES SERVICE starts on p. 92

has been an important port city for many years.

At the start of the project, the people of Dhofar could not do these jobs. They had never seen such things as tractors and trucks. Some even had to be taught to use shovels and hammers. But many were eager to work. When the freighter was being unloaded, more than 100 of them would gather each morning at the Sultan's courtyard, hoping that there would be work for them that day.

The Sultan pays each man. For a day's work, a laborer receives one Maria Theresa thaler, a coin of Austrian origin that is used in a few remote countries of the world. Its value: about 70¢. The Sultan is reimbursed by Cities Service for payments he makes to Dhofar laborers.

III. The Operation

Clayton and most of his key men arrived in Dhofar late last year. The geologists had come in before that. They patched together aerial photos, collected fossils; from these they picked the first drill site. Clayton and his crew picked a camp site near the beach. By December, they had several barracks under roof. (All wood had to be imported.) In late December, the Drilling & Exploration men arrived.

• **Ship to Shore**—On Jan. 6, the unloading operation got under way. The freighter Mohammed Ali was anchored about a mile off the coast. It had come in from Houston, where it had been loaded with the bulk of the equipment that would be needed on the project. Two LCTs, leftovers from World War II, had come in from Alexandria, Egypt, to shuttle between the freighter and the beach, carrying the freighter's cargo ashore. At times, an LCT would get stranded on the sand, and the men used rafts made of empty oil drums and slabs of wood to haul in equipment until the tide came in and freed the helpless LCT.

Even after the equipment had been brought ashore, a 16-day job, there was the next job: building a road through the mountains—35 miles long and up to an elevation of 4,000 ft.—to carry that equipment back into the desert. During the unloading operation, a second crew was at work on the road. A third was drilling water wells.

• **Setting Up Camp**—By February, the road was ready for trucks and trailers. Across the mountains, men were work-

ing on a second camp, which is now the permanent base for the drill crew.

At this camp is the pipeyard warehouse, the storage depot for most of the equipment that will be needed at the drill site. Clayton built this camp on the desert side of the mountains for two reasons. First, from here it is not a difficult trip to the drill site. The distance is almost 100 miles, but the desert makes a natural road for most of the way. Second, the new camp cannot be cut off from the drill site by the monsoon rains, which begin in the Dhofar mountains in mid-June. From then until mid-September, the mountain road will be useless. About 30 inches of rain will fall in the mountains during those three months.

• **The Guarantee**—By September, several million dollars will have gone into this desert project. For that, Cities Service will be able to show one deep hole—5,000 ft. to 10,000 ft. into the earth. There is one chance in 20—or perhaps the odds are even longer than that—that there will be oil at the bottom of that hole. The nearest proven well is about 500 miles away. If the hole is dry, the rig will be picked up and hauled to another site. The geologists have picked out several. In an area the size of Ohio, you can move around a lot.

Of course, big risks are not unusual in the oil business. In recent years, many companies have lost heavily in the Middle East before their investments have started to pay off. Standard Oil (N. J.), for one, spent \$12-million in Egypt between 1937 and 1949, never recovered a penny. Today, of course, it is a member of two highly successful development groups in the Middle East. A group of independent U. S. companies landed what looked like a lush concession in the Persian Gulf in 1949, spent more than \$30-million on five dry holes before it hit. And then, despite the fact that the well was in the midst of some of the richest fields in the world, the oil that came out was of an inferior grade. To date, very little of it has been touched by the big world markets.

• **Risks**—Cities Service knows the risk it is taking in Dhofar. But the company feels that it must take such risks for its future good. For years, Cities Service has refined more oil than its own domestic well have been able to produce. The deficit each year is made up by buying oil from other companies—Cities Service buys almost as much oil as its own wells supply. In time, the company



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hopes, projects like the one in Dhofar, or Egypt, or Peru will give the company a better balance.

IV. The Men

What makes a man want to work on a desert drill rig? For two years, he will see the same dozen faces, the same monotonous land. He won't see his wife or kids, because they can't come along. He won't see a ball game or drive a golf ball or pull a weed in the back yard. He won't even have a drink, because alcohol is against the rules.

He will curse his boss for his authority, and the natives for their ignorance, and himself for having come to this hot, forgotten corner of the world. But he will work at any hour, and he will work with energy and skill. When his two-year hitch is up, he will go home and wait for the bug to bite again. Then he will fly off to still another wildcat for another two-year hitch.

If he picks a lucky project, this pattern will change. In Dhofar, for example, if there is oil, some of the men will probably stay for more than two years. If the formations are big and plentiful, Cities Service will need drill crews for years to come. Then families will come, because there will be a city.

• **Gamble**—But nobody counts on that. Men leave home for a wildcat because they want to make money. Most of them know what the life will be like, since they have been through it before. They are willing to take some boredom for \$11,000 or \$12,000 a year—tax free, if the man stays out of the U. S. for 18 months. And that money is hard to spend, because there is nothing to buy. (Poker is always one available outlet.)

Some men head back home and into their own oil businesses with money they have been able to save on foreign jobs. And some, with reluctance, come back to work again after they have gambled and lost on wildcat wells. Said one hard-luck driller on the Dhofar project, "I was in Saudi Arabia for eight years. Saved my money. When I had enough, I went in with my brother-in-law on an Oklahoma wildcat. We drilled five dry holes and lost every cent. Now—stuck in Dhofar."

• **Personnel Screened**—Clayton had to expect this kind of grumbling. He says that he has seen it on every foreign project he has ever headed—and no doubt he has done his share in his time. But he feels lucky to have this crew. He says that is the best he has ever had. He credits Cities Service and Drilling & Exploration for that. Both companies plowed through files and personal interviews for months before they were satisfied that they had the right men.

They know that the men would have to have a special quality. Most important, they had to be skilled oilmen—men

who know how to handle any emergency on the rig.

But they had to have other skills too, because it will be months before they settle down to the jobs they had come to do. Meanwhile, they work as stevedores, truck drivers, electricians.

They have to be good improvisers, for no matter how carefully the operation had been planned, there will be many jobs that could not be anticipated. The precise tools for those jobs may be as far away as New York. But the right kind of oilmen can get the jobs done in any one of a number of other ways, with a different set of tools.

V. The Plan

Cities Service Co.'s exploration plans in Dhofar stretch over the next three years. In that time, the crew should be able to drill six holes. If what they find looks good—even though the holes may be dry—they will probably drill more.

For this exploratory phase, the company is likely to spend at least \$10-million. This is not a Cities Service figure; the company does not like to talk about over-all costs at this early stage because, as one company executive put it, "too many things can happen in the next two or three years to change today's estimate." It does say that it has spent close to \$2-million for equipment and supplies. (The \$10-million figure comes from oilmen outside the Cities Service Co. who have watched costs on their own Middle East projects. Some even say that \$10-million sounds too low.)

• **The Sultan**—Drilling a well is only half of Clayton's job. About once every week, he sheds his khaki work clothes, puts on a conservative business suit, and goes to visit the Sultan.

This is probably the most important part of his job, but it is not his first dealing with the head of a government. Clayton says that it is not a difficult assignment. The Sultan speaks English fluently. He seems to understand the oil company's problems. Since he arrived in Dhofar, Clayton feels that he has gained the Sultan's friendship.

• **No Oil**—If there is no oil in Dhofar—and the answer to that may still be years away—the mere presence of an American oil company is bound to affect the country's economy. If Cities Service pulls out, it will leave behind such things as roads, water wells, and modest buildings—assets that would have cost too much for the province's 20,000 people to have built in a short span of time.

But at those weekly meetings, the Sultan and Clayton seldom talk about that. When they have worked out answers to the week's problems, the two men usually talk about the roads that will someday be built and the piers that will jet out from the Dhofar coast.



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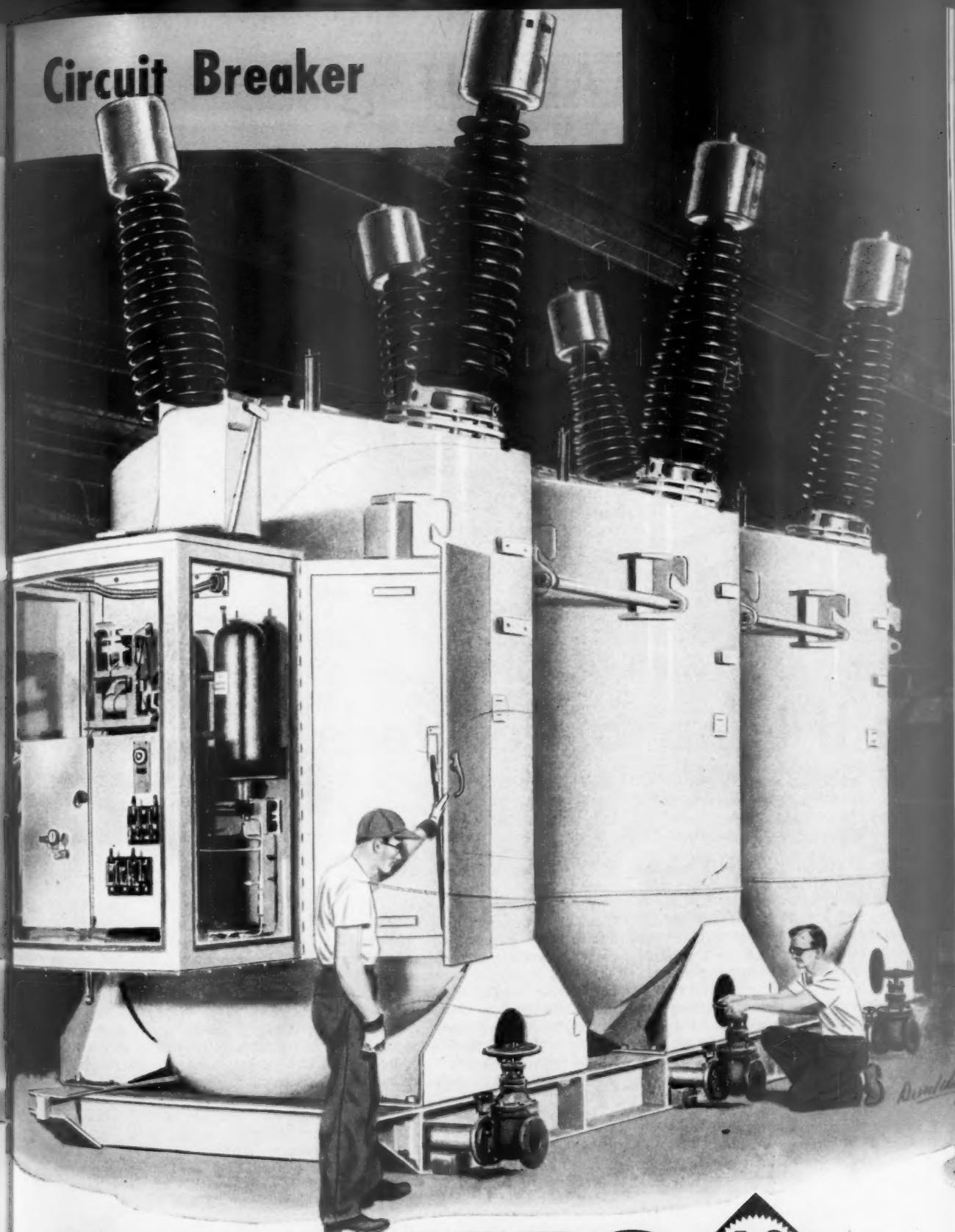
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WHAT IT'S ABOUT

Fulbright Hits at Big Board's Educational Campaign, Opposes Capital Gains Tax Cut

Urge End of Capital Gains Tax

Mr. Smith said he did not think the Stock Exchange had gone far enough when he introduced the capital gains tax. Mr. Smith said he did not think the New York Stock Exchange had gone far enough when he introduced the capital gains tax. Mr. Smith said he did not think the New York Stock Exchange had gone far enough when he introduced the capital gains tax.

Stock Market Rise In Business, Smith Tries to End Capital Gains Tax

Broker Tells Fulbright About Capital Gains Tax

Tax Change Proposed

Mr. Graham suggested that the capital gains tax be modified to a maximum of 25 per cent on assets held for at least six months, as at present, to 12½ per cent on assets held more than two years. But he would like to see the tax on assets held for less than two years. He would like to see the tax on assets held for less than two years.

SPECIAL TAX TREATMENT FOR CAPITAL GAINS . . .

Is It Loophole or Penalty?

One traditional way to riches in the U.S. boils down to this simple formula: Acquire property, or shares of stock representing property, and wait for a rise in value.

It's a process that's been familiar since Peter Minuit bought Manhattan Island from the Indians for \$24 worth of trinkets. But the process has always baffled and puzzled people, too—as a business practice, as a political issue, and as an economic phenomenon.

People agree on a name for it—capital gain. But they agree on little else about it. That was plain enough during the Senate Banking & Currency Committee's hearings on the stock market. These are some of the questions that bobbed up there:

- Why tax capital gains at lower rates than ordinary incomes?
- Why tax them at all, since they are so clearly not income in the ordinary sense?
- If we lowered the rate on capital gains would a greater supply of stocks be offered for sale? But at the same time would the number of new buyers increase, leaving the supply-

demand relationship about where it is now?

- Is the present capital gains tax blocking economic expansion?
- Or is it just a gigantic loophole by which the wealthy are able to avoid taxes?

These questions, and others like them, have been debated furiously for a quarter of a century by politicians and economists. And businessmen have been caught in the middle. We have never worked out a consistent philosophy of how the Internal Revenue Service should treat capital gains and their often overlooked counterpart, capital losses. But now there are signs that Washington is planning a major change in that.

Treasury experts, under orders from Secy. George M. Humphrey, have completed a year-long study of capital gains. Officials hope that next year their study will form the basis of new legislation. What they want to do is:

- Clarify the role that capital gains play in acquiring property and building an estate easily and quickly.
- Maintain their present favorable tax treatment compared to ordinary in-

come, and increase the favor if this looks politically possible.

- Block some of the methods by which ordinary income is now transferred to capital gains to save taxes.

I. What They Are

Capital gains made our first millionaires—the early land speculators. Today, heavy tax rates on ordinary income make it virtually impossible to build a substantial fortune except through capital gains.

We give capital gains special tax treatment in two important ways: (1) The top rate applied to them is 25%, compared to the top rate of 91% on ordinary income; (2) we tax them only when they are "realized"—by which tax collectors usually mean, when the property is sold.

• **Detroit Practice**—Detroit knows this story well; it has been repeated many times there: A key executive in the \$50,000-plus salary bracket quits his job to start his own auto sales agency, from which he will take a salary of perhaps \$15,000 or \$20,000. The reason: By exercising the same degree of

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managerial skill that earned him a big salary as a corporation employee, he can create earnings in his own business and plow them back into the enterprise, tax free.

If he finally sells out, he pays no more than 25% on his capital gain. As long as he does not sell, the capital gain is not taxed at all.

Another way of creating capital gain is to arrange mergers. This is a classic device: Several existing businesses are combined into a single operation more profitable than the original separate companies. And so, holders of all the original securities get a capital gain.

• **Not Just the Wealthy**—But capital gains have never been the exclusive interest of the wealthy, though politicians sometimes say so. More than 40% of those reporting taxable capital gains in 1950—the last year for which we have detailed figures—had ordinary incomes of less than \$5,000.

The great business boom since World War II created capital gains for millions of middle and low income families who worked hard, invested shrewdly, or were just plain lucky. Almost everybody who has owned a house for 10 years has a capital gain—the difference between the 1945 price, and what it would bring today.

"The town is coming this way," with all that implies by way of rising values, is part of the American tradition of home-owning. It is being repeated today, with the spread of suburban living.

Millions of others have capital gains through the rise of stock prices the past two years.

• **Where Trouble Starts**—In this general way, we know what capital gains and losses are. The confusion starts when lawmakers try to separate them from ordinary profits and losses for tax purposes.

John Smith, grocer, owns his own store building. He makes a profit from the sale of groceries and this is taxable at ordinary income rates.

But when Smith sells his building for \$10,000 more than he paid for it, 15 years before, the profit picture changes. The extra \$10,000 is certainly profit, but, just as certainly, it's profit of a different kind. It does not stem from his stock in trade, or from his ordinary business. It is not repeatable; Smith can go year after year making a profit from his grocery stock, but once he takes his profit on the building, he's through. What's more, the \$10,000 was the result of gain built up over a 15-year period and this sets it aside from his ordinary income that he figures, for tax purposes, on an annual basis.

• **The Vital Questions**—These neat distinctions break down in everyday life. For one thing, the questions of what

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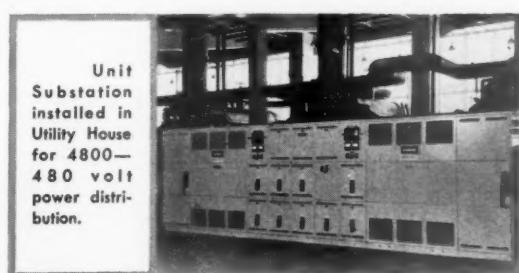
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is a stock in trade and what is a man's ordinary business, are clearly going to trouble both businessmen and tax collectors.

But the difference between ordinary income and capital gains is so fundamental that hardly anyone argues any more that the two should be treated alike in the tax law.

This was not always the case.

Horace H. Rackham and John W. Anderson invested \$5,000 each with Henry Ford in 1903. In 1919, they sold out to Ford for \$12,500,000 each—a capital gain in both cases of \$12,495,000. In 1919, capital gains were taxed exactly the same as ordinary income. Rackham and Anderson each were subject to a tax of something close to \$8,600,000.

Under today's law, they would have paid 25% on their gain—\$2,988,750.

What happened to bring about this change in our tax rules in favor of capital gains? The answer throws light on what we can expect in the next round of changes.

II. How It Began

The U.S. is the only major industrial country that ever taxed capital gains the same as ordinary income. We remain one of the few countries that taxes long-term capital gains at all. Our history in this respect is unique.

It begins with the temporary income taxes of the Civil War; capital gains were treated then like ordinary income. When the 16th Amendment finally made income taxes legal in 1913, it was generally assumed that capital gains would be included. The Supreme Court agreed in a long series of test cases. Its reasoning boiled down to this: "In determining the definition of the word 'income' . . . this court has consistently refused to enter into the refinements of lexicographers or economists, and has approved . . . what it believed to be the commonly understood meaning of the term. . . ."

• **The Court's Distinction**—The court decided that in this country, capital gains are a common and expected source of gain, and therefore taxable as income. In other countries, capital gains are regarded as unexpected, largely unplanned, and therefore nontaxable income.

In Great Britain, for example, capital gains are—in principle—not taxable under the income tax law, and capital losses are not deductible. But in practice, many capital deals are put under income tax provisions. A common complaint of British businessmen is that they can never be sure, before a deal is made, how it will be classified by the tax collector.

Canada follows the British practice. Capital gains are tax free unless they

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involve a stock in trade. Again, there is constant confusion as to what constitutes stock in trade.

France, a few years ago, adopted the U.S. principle of taxing half of realized capital gains at full income rates. France did not, however, adopt anything similar to our overall ceiling of 25%. France is almost alone in following our lead. Most European countries cling to the British pattern.

- **Backward Trend**—Since the original rulings of the U.S. Supreme Court, the capital gains story in this country has been largely one of backtracking from our first concept.

Lawmakers have insisted on taxing capital gains—but have provided a long and complicated series of special provisions.

The Supreme Court wrote the first special rule. It agreed that the 16th Amendment gave Congress power to tax capital gains as income, but only after the gains were realized. A mere paper profit was not taxable.

Congress has gone on from there.

The idea of taxing capital gains at ordinary income rates was dropped in 1921—and probably will never get back into the law. Congress put a top rate of 12½% on realized capital gains if the asset had been held two years. The top rate on ordinary income was then 70%. This special treatment applied only to individuals; full taxation of corporation capital gains was continued until 1942.

- **New Dealers' Formula**—The New Deal tried a new idea. It substituted a formula by which individuals were allowed to deduct varying proportions of capital gains from ordinary income. If the asset had been held one to two years, the deduction was 10% of the gain; the top deduction was 70% for assets held more than 10 years.

This formula was gradually abandoned by Congress in favor of the present system, with its 25% ceiling.

Most taxpayers pay even less than this. Congress first allows capital gains to be cut in half for tax purposes; ordinary income rates are then applied to the taxable half. On joint returns of under \$36,000 ordinary income, this method results in the lower tax. Over \$36,000, it pays to take the full capital gain and use the 25% tax rate. Neither of these special methods applies unless the asset sold was held at least six months; otherwise, full income tax rates apply. This holding period, incidentally, is the shortest ever provided.

III. Why Special Treatment?

Congress has two general ideas in providing these special rules:

- It was recognized in 1921 that the old method, with its high tax penalty, was seriously blocking the transfer

of assets. Owners of property who had a capital gain simply were refusing to sell; they couldn't afford to. In an effort to restore fluidity, the special 12.5% ceiling was adopted.

- It also dawned on lawmakers that it was inequitable to tax capital gains at ordinary income rates. A man who makes \$15,000 a year from \$500,000 worth of 3% Treasury bonds can be expected to pay one tax. But it's unfair to ask a man with a \$3,000 regular income, who made \$12,000 on the sale of his house, to pay the same amount.

These same considerations will influence Congress in the future.

IV. Next Round

All sorts of ideas—good, bad, and indifferent—for easing capital gains taxation came out of the stock market hearings. Here are some of them:

- Lower the top rate to 12.5%. Treasury officials realize this is tough, politically, unless it can be combined with a broad reduction of taxes on low incomes. But they feel a reduction will loosen up the economy—make sales of capital assets more attractive, and encourage investors to back new enterprises. They want it as part of their broad goal of stimulating growth and expansion.

- Reduce the holding period to three months. This hasn't much chance. To congressmen, it sounds too much like giving a tax break to speculators.

- Remove all taxes from capital gains if the seller reinvests in comparable property. This would include securities. It's an application of the relief voted several years ago to homeowners. Congress accepted the idea that most of the gains in housing prices were due to inflation and that no real addition to capital had occurred. Homeowners who buy another house within a year, at a price at least equal to the one they sold, are excused from paying a tax. The same principle could be applied, for the same reasons, to other property. Its chances of being a part of any Administration program are slim. Congressmen are cool.

- Restore the old formula by which the tax is reduced according to the length of time the asset is owned.

- Raise the amount of capital losses now deductible from ordinary income from \$1,000 a year for five years, to \$5,000 a year. There is considerable sentiment for increasing this allowance, again in the interests of risk-taking.

The Administration, along with any suggestions it has to make about easing the tax, is almost certain to ask Congress to tighten up on some capital gains rules. Details will have to wait until 1954 returns, based on the new tax law, are in. Nobody knows just how some of the new provisions will work.

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who have had many years of Branch experience abroad. These officers make available to cotton exporters easily accessible, up-to-the-minute information on foreign exchange, import controls, marketing procedures and other pertinent facts.

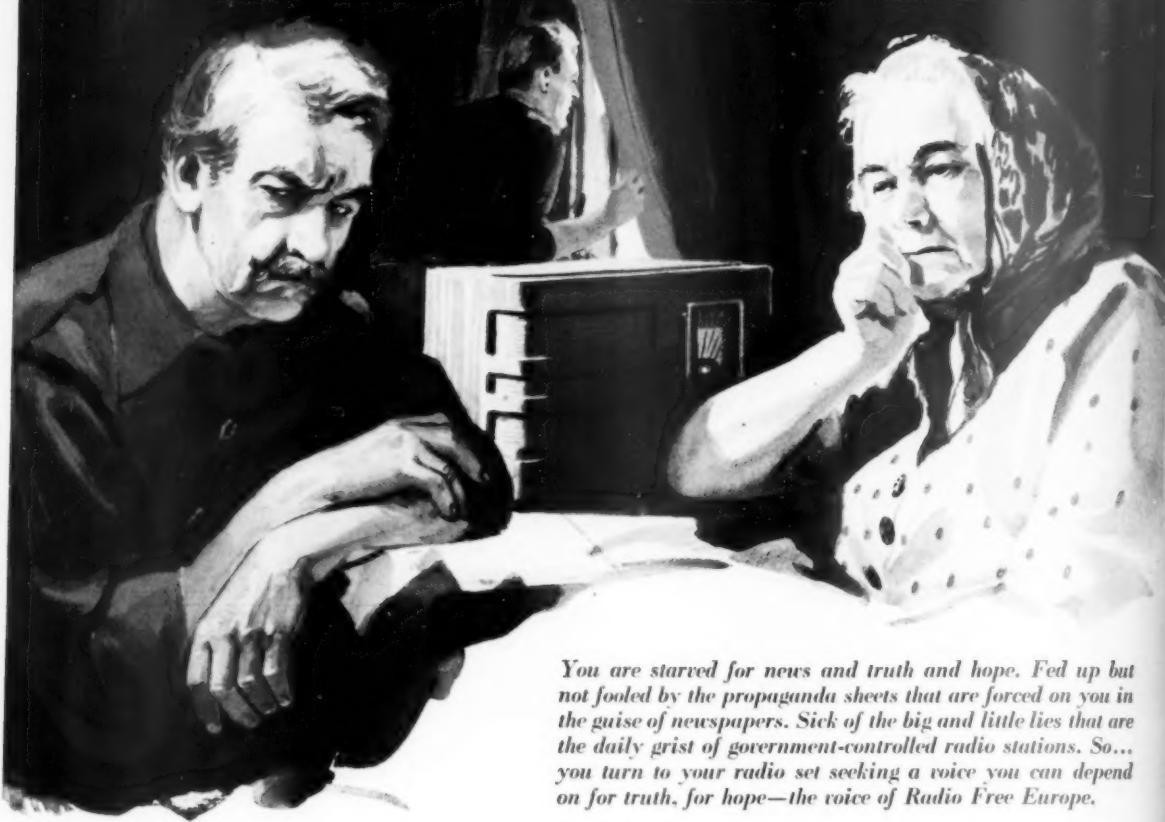
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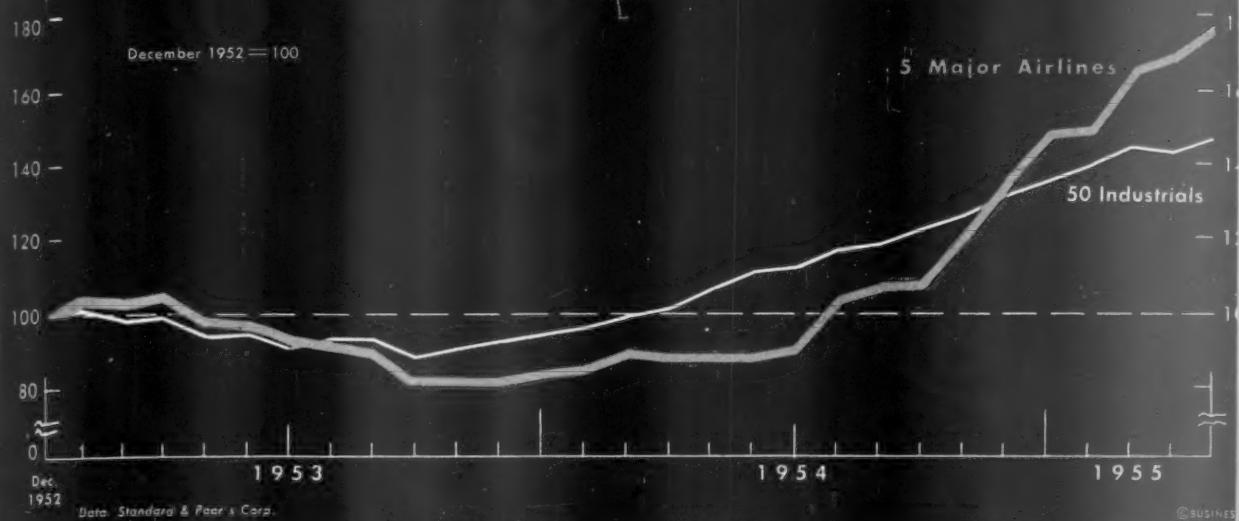
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FINANCE

AIRLINE SHARES:

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THE REASON: Hopes That Zooming Revenues Will Increase Profits Soon

(Millions of Dollars)

AMERICAN AIRLINES

Company	1951	1952	1953	1954
Total Operating Revenues	\$163.0	\$187.3	\$208.3	\$214.8
Net Income	10.5	12.5	13.4	11.5
*Pre-Tax Profit Margin	17.1%	13.9%	13.2%	9.8%

EASTERN AIR LINES

Company	1951	1952	1953	1954
Total Operating Revenues	98.3	118.6	144.5	169.9
Net Income	7.2	8.5	7.9	7.2
*Pre-Tax Profit Margin	21.1%	15.0%	9.6%	11.0%

NORTHWEST AIRLINES

Company	1951	1952	1953	1954
Total Operating Revenues	54.7	61.6	66.1	63.6
Net Income	1.8	1.8	1.9	2.2
*Pre-Tax Profit Margin	5.5%	4.7%	3.3%	7.2%

PAN AMERICAN WORLD AIRWAYS

Company	1951	1952	1953	1954
Total Operating Revenues	\$188.6	\$205.2	\$217.9	\$226.0-E
Net Income	6.5	6.8	10.8	13.0-E
*Pre-Tax Profit Margin	6.3%	5.5%	9.1%	N.A.

TRANS WORLD AIRLINES

Company	1951	1952	1953	1954
Total Operating Revenues	142.6	160.7	187.2	203.7
Net Income	7.7	7.7	5.1	10.3
*Pre-Tax Profit Margin	10.3%	8.5%	5.3%	10.5%

UNITED AIR LINES

Company	1951	1952	1953	1954
Total Operating Revenues	127.8	159.0	173.0	200.7
Net Income	8.6	10.7	8.4	8.6
*Pre-Tax Profit Margin	13.7%	14.3%	10.6%	11.3%

* — Percent of Revenues N.A. — Not Available E — Estimate

Near-Term Prospect Is Bright

Airline stocks have been doing some fancy climbing. Since November, 1953, Standard & Poor's index of air transport shares has gone up 110%, while the 50-industrials index has risen a more modest 54%.

The performances of the airlines has given plenty of support for the longer-term hopes of investors and traders:

• For the past three years, passenger travel on the domestic airlines has

held an increasing edge over Pullman travel on the railroads.

• Last year, planes carried more passengers to and from Europe than did the steamship lines. And this trend is expected to continue.

• Operating revenues of the 13 major airlines in 1954 topped \$1-billion for the first time, with a \$1.1-billion gross compared with \$989-million the year before. The total number of pas-

sengers carried was 30-million, a gain of 12½% over 1953, and double the number five years ago.

• Earnings for 1954 were most encouraging. Sixteen major air transport companies had \$56.8-million in net income after taxes, according to a tabulation by First National City bank of New York. That was a 9% gain over 1953.

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"... there are signs that operating costs are beginning to stabilize. Last year 16 lines surveyed . . . were able to carry 5.1% of the gross into net; the year before the figure was 5.2%."

AIRLINES starts on p. 111

Wall Streeters, the near future prospects of the airlines are fully as encouraging as the recent performances:

Helicopters or planes of similar type should develop to a point where they can compete with rail and highway for the profitable shorter inter-city passenger business.

Express and air freight are expected to expand considerably.

New engines, more powerful and more efficient, are expected to take a healthy bite out of operating expenses.

• **Stockholders**—These pleasing prospects have sometimes been glimpsed rather dimly by the stockholders. Dividends have been much less enticing than other statistics of the industry.

All the airlines came out of World War II needing newer, faster, bigger planes. Since 1950, annual capital outlays for aircraft have run around \$125-million. And even with the industry's carrying capacity boosted from 9.2-billion seat-miles in 1947 to 26-billion today, the expansion still goes on. The industry has \$70-million annual equipment spending outlined for both 1955 and 1956.

The airlines are allowed to write off their spending on planes over a five-year stretch for tax purposes. Clearly, so long as there is heavy capital spending, this fast write-off takes a substantial bite out of book earnings. Last year, the major lines had depreciation charges of around \$100-million, sharply higher than the \$88-million in 1953 and the \$52-million in 1947.

For purposes of their own bookkeeping, some lines have used an even faster write-off than that used for tax purposes. Thus Capt. Eddie Rickenbacker, the canny boss of Eastern Air Lines, has been writing off the cost of his planes in four years. This boost in "book" charges pushed Eastern's 1954 earnings down \$700,000 below their 1953 level at a time when operating revenues were rising more than \$25-million.

• **More Seats**—Wall Streeters says that eventually the new planes will pay off even for the stockholders. That's because the new craft have greater seating capacity; when these seats are filled, revenues will rise—and there's every indication that the volume of air travel will increase. Add these factors to the fact that the cost of the planes is being written off fast, and you get a considerable leverage on earnings.

Take the case of TWA in 1954. Ralph S. Damon, president of the line, says that at least part of the line's fine showing is due to its having had "no unusual new plane digestion costs." For the year, TWA's gross revenues were \$203-million, a 9% gain over 1953; net income after taxes was \$10.2-million, an increase of 104%.

• **Dividends**—So far, TWA has not passed on any of these increased earnings to its stockholders. The last payment on its common was a 10% stock dividend more than two years ago.

For Eastern Air Lines stockholders the prospects may be brighter; Wall Streeters think their dividend income may be doubled this year, with the 50¢ payments of 1952-1954 being boosted to \$1. And there are indications that American Airlines will pay at least 80¢ a share, compared with 50¢ in 1952-1953 and 60¢ last year.

Most Streeters think that United Air Lines will merely continue its \$1.50 a share payments of the past three years. But there are a few observers who think a boost may be in the cards. They reason from United's recent fantastic business growth. In March, the line flew 292-million revenue passenger miles, 42% more than in the 1954 month. Other gains were: (1) airplane miles up 23% to 8.8-million miles; (2) freight up 36% to 3.4-million ton-miles; (3) express up 36% to 998,000 ton-miles; (4) mail up 28% to 2.4-million ton-miles.

Part of this gain is attributed to the fact that United picked up—and kept—many passengers and shippers from American Airlines while the latter was strikebound. But this is only part of the story. United itself credits "better merchandising" of its services, and many Streeters are inclined to go along. What's more important, they think the trend will continue.

• **Costs**—Of course, changes in the cost structure happen to airlines as they do to any other business. While new planes have increased operating efficiency, operating expenses have usually been rising, under the pressure of higher wages, fuel bills, and other supply costs.

Right now, there are signs that operating costs are beginning to stabilize. Last year, the 16 lines surveyed by First National City Bank were able to carry 5.1% of the gross into net; the year before, the figure was 5.2%.



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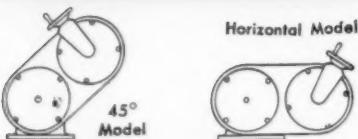
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1954's Biggest Non-Financial Money-Makers

COMPANY	Net Income (Thousands of Dollars)			1954 vs. Record Year	
	1954	Record Year	1939	Record Year	1939
General Motors . . .	\$805,974	\$834,044 (1950)	\$183,290	—	3.4% + 339.7%
Standard Oil (N.J.) . .	*584,000	1954	89,129	—	+ 555.2
The Bell System . . .	549,931	1954	190,281	—	+ 189.0
E.I. duPont . . .	344,386	1954	93,219	—	+ 269.4
Texas Co. . . .	226,140	1954	32,887	—	+ 587.6
General Electric . .	212,613	1954	41,236	—	+ 415.6
Standard Oil (Cal.) . .	211,872	1954	17,883	—	+ 1084.8
U. S. Steel . . .	195,418	222,736 (1953)	41,120	—	+ 375.2
Socony-Vacuum Oil . .	183,806	1954	34,453	—	+ 433.5
Gulf Oil . . .	182,813	1954	15,316	—	+ 1093.6
Sears, Roebuck . .	141,343	1954	30,996	—	+ 356.0
Bethlehem Steel . .	132,837	133,948 (1953)	24,638	—	+ 439.2
Shell Oil . . .	121,127	1954	11,318	—	+ 970.2
Standard Oil (Ind.) . .	117,157	148,697 (1951)	34,143	—	+ 243.1
Union Carbide . . .	89,779	124,112 (1950)	35,847	—	+ 150.5
Westinghouse Elec. .	84,594	1954	13,854	—	+ 510.6
Kennecott Copper . .	77,906	93,807 (1948)	33,947	—	+ 129.5
Phillips Petroleum . .	76,235	76,760 (1953)	9,833	—	+ 675.3
Sinclair Oil . . .	**74,623	86,475 (1952)	7,541	—	+ 889.6
Eastman Kodak . .	69,822	1954	20,818	—	+ 235.4
Union Pacific . . .	69,623	70,430 (1953)	18,967	—	+ 267.1
Int'l Paper . . .	#67,476	1954	4,390	—	+ 1437.0
Atch. Top. & S. Fe. .	66,173	82,142 (1950)	8,503	—	+ 678.2
Int'l Nickel . . .	65,295	1954	36,847	—	+ 77.2
Pacific Gas & Elec..	63,039	1954	25,700	—	+ 145.3

* Company estimate. ** Excludes \$17-million profit on the sale of capital assets.

Before special nonrecurring credits and debits.

(Ford Motor Co. does not make public its net income, but on the basis of unit sales and reports on assets it undoubtedly is among the largest non-financial corporate earners.)

© BUSINESS WEEK

GM Still Earns the Most

The four top places remained unchanged last year in the select society of the 25 biggest earners among the nation's nonfinancial corporations (table). General Motors Corp. was still perched on the highest rung, followed in order—as it has been for some time—by Standard Oil Co. (N. J.), The Bell System, and E. I. du Pont de Nemours.

Progress was rather general among the big earners. Of the 25 companies that earned the most in 1954, there were 16 that did better than in the previous year. And 15 had their biggest-ever year.

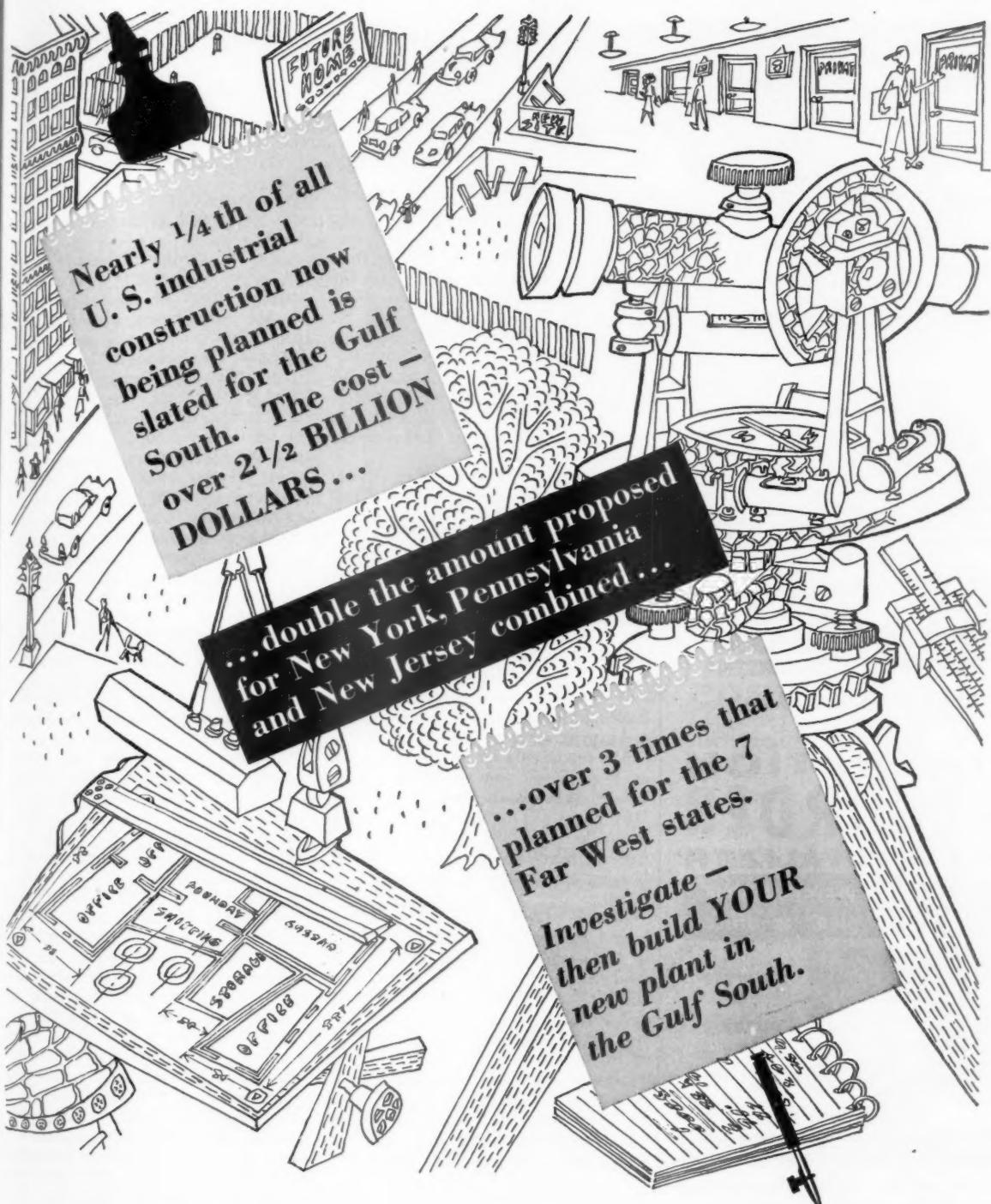
GM, the biggest earner of them all, was not among the record setters. Its net lagged behind 1950's record of \$834-million, by about \$28-million, or 3%. However, GM did score a fat 35% gain over 1953, a lot more than most companies could show in a year when recession was in the air. The gain left GM's grasp on first place more secure than it had been for some time. For the year, the auto giant's after-tax profit topped second place Standard Oil (N. J.) by \$222-million, or 28%. In the year before, GM led by only \$45-million, or 8%; in 1952 by \$39-million, or 7 1/2%.

Below the top four companies, there was considerable shifting of rank in

1954. Notable among the missing from the select 25 were Chrysler Corp. and Southern Pacific. Chrysler had been 19th in 1953, 18th in 1952, and 20th in 1951. Southern Pacific had ranked 23rd in both 1953 and 1952. The two vacancies in the list were filled by International Nickel and Eastman Kodak. For the former this merely represented a return to the list of big winners after a temporary absence of several years for Eastman Kodak, however, it marked that company's first appearance in the postwar period as one of the country's 25 leading corporate money-makers.

Once again the oil business was Mr. Big where industries represented on the list were concerned. Included last year, as in 1953, were nine engaged in that field—all integrated companies.

Otherwise, however, the list of 1954's biggest corporate earners was comprised of companies engaged in 10 widely varied fields of endeavor. Six of our largest industries—the chemical, public utility, electric equipment, mining, steel and iron, and railroad fields, for example, could boast of having two members each on the list, and four others—the photographic supply, auto, retail merchandising, paper making trades—each provided single entries.



Source: Engineering News Record (McGraw-Hill) computed by United Gas Industrial Development Director, P. O. Box 1407, Shreveport, Louisiana.



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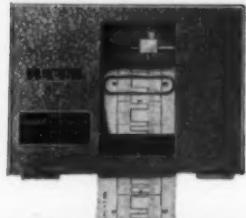
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Brokers Turn to Automation

Electronic calculators prove they can speed the paperwork. So Wall Street joins industry in constant search for aid from new technology.

Automation is the key word in the new era of technology that has the country in its grip. Practically every industry is immersed in the question of how to apply the abilities of the new mechanisms to its own particular problems.

And now Wall Street is climbing on the automation bandwagon, too. The Street's brokerage houses and banks are concentrating on the mechanisms that represent an essential part of automation—the giant electronic calculators.

Among financial institutions, it was the big life insurance companies that led the way in the use of electronic calculators. That was understandable—they have even greater piles of paperwork to handle than banks and brokerage houses. But now the banks are making swift strides toward integrating the new machines—such as Remington Rand's Univac and International Business Machines' 700 series—into their operating procedures. And brokerage houses are not too far behind.

At present, there are about 40 of IBM's model 604 electronic calculators in Wall Street, mostly in the larger houses, including the two odd-lot firms, De Coppel & Doremus and Carlisle & Jacquelin. Merrill Lynch, Pierce, Fenner & Beane uses three 604s, the heaviest concentration anywhere in the Street.

• **Testing Ground**—Because it's the largest firm on the Street, with 10% of the round-lot business on the New York Stock Exchange and more than 150,000 customers (BW—Feb. 26 '55, p56), Merrill Lynch is in a sense playing the role of guinea pig for the rest of the brokerage business in the switch to automation. Merrill Lynch has had a battery of three IBM 604s operating for three years. It's awaiting an IBM 650, scheduled for delivery next January. And it has ordered an IBM 705—the most agile of the electronic brains, and the one with the largest memory—which it plans to put to work in another two years.

Merrill Lynch's battery of 604s fits comfortably into its elaborate accounting system. Here's how the firm uses its 604s to keep track of each day's securities trades:

• Trade tickets bearing symbols for the name of each security, the quantity traded, the price at which they were traded, the place where the trade was made, and the customer's name

come to a group of key punch operators who punch this information out on IBM cards.

• The cards are fed into one of the 604s, each of which carries a standing stock of knowledge on intricately wired panels, consisting of the names and par values of every security listed on the exchange.

• The cards make four passes through the 604s. On the first run, the machine calculates the total amount of money involved in the transaction and the commissions that have to be paid. On the second run, it checks its own results. On the third run, it calculates the taxes and the postage and gives a final figure of the net amount to be marked on the customer's account. On the final pass, it checks that last result.

All these operations take place at high speed. The 604 gobble up punch cards at the rate of 100 per minute, in that time handles as many as 60 calculations on each card. One operator, who needs no special technical knowledge of the workings of the machine, keeps watch on the process. IBM keeps three technicians at Merrill Lynch during the day and one at night to handle repairs on the mass of IBM equipment for which Merrill Lynch pays a monthly rental of around \$28,000.

• **Varied Jobs**—Merrill Lynch also puts the 604s to work on its commodity trades, dividend accounting, and its own payroll. Most days, it keeps the machines running pretty nearly around the clock. In January, when it gets the model 650 calculator, Merrill Lynch hopes the machine will handle its margin trading accounting, besides doing its regular trades in about one-quarter the time the 604s take for the job. The firm will keep one of its model 604s as a standby until the 650 proves itself. And then, in another two years, the model 705 that IBM is now building will replace the 650.

Even the 604s have proved a tremendous asset in handling Merrill Lynch's business during the market's heavy volume days early this year.

The Street's larger banks have stuck to checking and savings accounts as prime areas for electronic bookkeeping. They're operating with machines no more advanced than IBM's 604 series. But the Mellon National Bank & Trust Co., in Pittsburgh, has ordered a model 650 calculator and plans to use the

machine to keep track of all its installation loan business. Practically all of the country's larger banks are keeping their eyes on the work of the newest electronic "brains."

• **Fast Worker**—Early last year, National City Bank of New York, working with IBM engineers, ran its whole ponderous budget, with its elaborate departmental cost analysis, through an electronic calculator and found the operation satisfactory. The bank figures this job would ordinarily take 1,000 man hours but the machine handled the operation in just nine and one half minutes. There's a catch, of course—that time does not include the weeks that were spent "programing" the machine for the operation, that is, filling the machine's "memory" with information on how it was to handle the operation.

Meanwhile, IBM is making a big play for the banks' business. Last November, IBM Pres. Thomas J. Watson, Jr., told a forum of New York bankers that IBM would modify its plans to meet their needs. Thus, problems like National City's budget would come solved with rental of the machine.

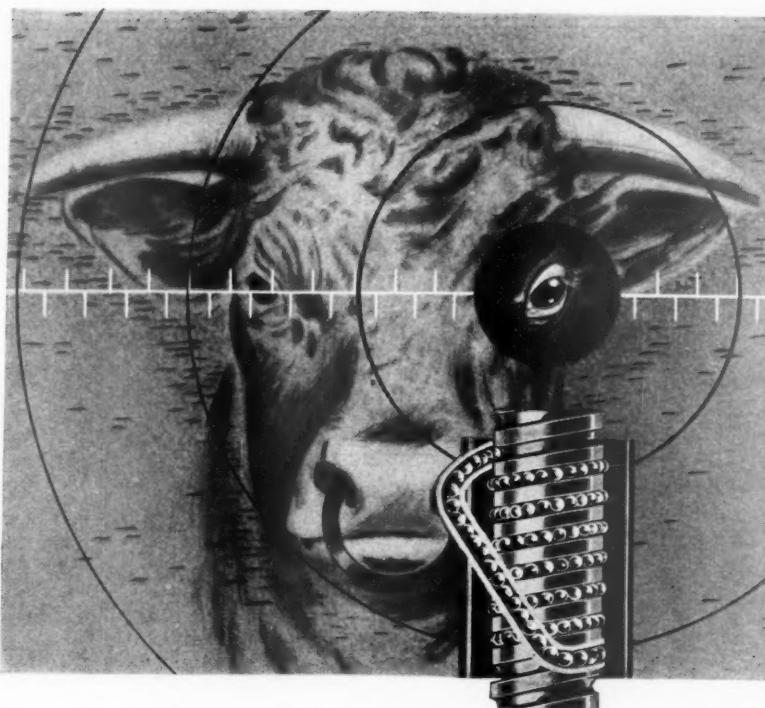
FINANCE BRIEFS

General Dynamics Corp. scored the expected quick sell-out last week with its \$40-million offering of 20-year 3 1/4% convertible debentures. Priced originally at 102 1/2% of par, the debentures shot up to 116% on the first day. The climb is laid to the wild popularity of General Dynamics' stock as an atomic speculation, and the super-attractive conversion terms on the new bonds. They can be converted into stock—which recently hit \$80—at \$75 a share, approximately the market price on opening day.

Wandering far afield: Powdrell & Alexander, Inc., maker of curtain fabrics, is diversifying with a bang. The company's first purchase has been a soft-drink bottling plant.

Bethlehem stock split rumors are fading, after sending the steel company's common rocketing from \$101.50 up to \$140, a gain of 40%. Instead of confirming the long expected split news, "Bessie" Pres. Eugene G. Grace last week announced that common holders will soon be offered first rights to buy \$191.7-million of new 25-year 3 1/4% convertible debentures, on the basis of \$500 in bonds for each 25 shares. Conversion terms and subscription price will be announced later.

Reinforcements for Sewell Avery turned up when two open-end funds—Affiliated



you can achieve BULL'S-EYE POSITIONING WITH THIS SCREW THAT ROLLS ON BALLS

Pin-point positioning is possible with an AEROL Ball-Screw mechanism even under the most adverse temperature conditions. Because AEROL Ball-Screws move entirely on friction-free steel balls, they permit an assembly to move effortlessly and to position *exactly* at the desired spot... with no springiness, no drift, no rebound. Because they require no lubrication, they allow you to operate in high-temperature areas without fear of fire and thinned-out grease, and in low-temperature areas without the problems of stiffened grease and sluggish operation.

Because AEROL Ball-Screws are friction-free, their use can greatly increase drive efficiency, allowing you to save on motor size and weight, first cost, space and electricity required.

AEROL Ball-Screws are at work now in many varied applications. They have proved to be the best answer to many design and operating problems. They may solve a problem for you. To get more information, write for our free booklet.

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Tool Company CLEVELAND 5, OHIO

DEPARTMENT B-455

AIRCRAFT GROUND HANDLING EQUIPMENT
BALL-SCREW MECHANISMS • AIR-OIL IMPACT ABSORBERS



WORLD'S LARGEST MANUFACTURER OF AIRCRAFT LANDING GEARS

*This announcement is neither an offer to sell nor a solicitation of an offer to buy these securities.
The offer is made only by the Prospectus.*

\$40,000,000

General Dynamics Corporation



3 1/2% Convertible Debentures, due April 1, 1975

Convertible into Common Stock at \$75 per share

Price 102 1/2% and Accrued Interest

Copies of the Prospectus may be obtained in any State only from such of the several Underwriters, including the undersigned, as may lawfully offer the securities in such State.

Lehman Brothers

Blyth & Co., Inc.

April 6, 1955.

This announcement is not an offer to sell nor a solicitation of an offer to buy any of these securities. The offering is made only by the Prospectus.

NEW ISSUE

April 6, 1955

262,750 Shares

Storer Broadcasting Company

Common Stock

Par Value \$1.00 per Share

Price \$24.625 per Share

Copies of the Prospectus may be obtained in any State only from such of the several Underwriters named in the Prospectus and others as may lawfully offer these securities in such State.

Reynolds & Co.

Incorporated

Hornblower & Weeks

Paine, Webber, Jackson & Curtis

Fund, Inc., and American Business Shares, Inc.—announced they would vote their 105,000 shares of Montgomery Ward stock to retain management. H. I. Prankard, II, president of both trusts, said last week he would be in Avery's corner at the Ward annual meeting Apr. 22. And a Sears, Roebuck subsidiary, Allstate Insurance Co., said its 8,000 Ward shares would be voted for Avery.

Textron American, Inc., may soon buy up several important non-textile businesses, says Chmn. Royal Little. He says the new company—born of the merger of Textron, Inc., Robbins Mills, and American Woolen—will use only half its capital in the textile business.

Plans to borrow: Next month W. R. Grace & Co. will sell publicly \$30 million 20-year convertible subordinate debentures. The money will be used to reduce present debts and to finance expansion of Grace's chemical properties in the U.S. and Canada.

SEC's Rule Tightens Brokers' Borrowing

The Securities & Exchange Commission this week took steps to tighten up on brokers' borrowings on "net capital"—which is made up mostly of securities and commodities futures contracts held by brokers. The new rule, which goes into effect on May 20, will not change the basic requirement that a firm have \$1 of capital for each \$20 of debt. But it will change the method of figuring the value of net capital.

By the old method, brokers calculated the net capital figure by deducting 10% of the market value of all securities they owned to allow for market fluctuations. The revised method has these different deductions for different classes of securities:

- Bonds and other fixed debt—market price, less 5%.
- Cumulative, non-convertible preferred—market, less 20%.
- Common stock and other preferred issues, plus commodities futures contracts—market, less 30%.

SEC Chmn. Ralph H. Demmler said the new rule doesn't necessarily mean that "the financial position of brokerage-dealer firms may be unsound," but is designed to "further strengthen the financial responsibility of brokers and dealers."

The rule will actually apply only to firms that are not members of the country's seven largest stock exchanges. In most cases, those seven largest exchanges already put stricter limits on borrowing than SEC does.

How and why to pick a sky



From top to bottom

Luminous ceiling of Corning Alba-Lite for the City Investing Company, N. Y. C. Comfortable, even illumination—adequate for all areas.

Luxury lighting brightens this executive office. Corning Fota-Lite, both in the perimeter and over-the-desk panels provide proper balance, add a decorative note.

Helping to set a buying mood are these Twinlite panels of water-white crystal glass in the Lane Bryant Store, Brooklyn, N. Y.

Sky below the street uses both flat and bent Alba-Lite panels. This installation is in Chicago's Grant Park Underground Garage.

If selecting a sky seems unprofitable or impractical, the pictures on this page may suggest otherwise.

An indoor sky is something you can select. And, you can do it with the same basic purposes and criteria used for other office, store, or plant equipment. Here's why.

Indoor skies (commonly called ceilings) can be put to work to provide the right kind of light—light that sets a mood, creates an atmosphere; glareless, shadowless light that provides the correct level for an infinite variety of tasks.

And what keynotes most modern lighting plans? Glass. One of man's oldest and ablest allies, glass in lighting serves three basic functions: 1) Control, 2) Protection, 3) Decoration.

Each function requires the skills of specialists—engineers, product designers, architects, artists and craftsmen. And each individual piece of glass for lighting represents a blending of art and science—a way to pick a sky that suits *you* and your purposes.

Corning lighting products are the stuff architects, engineers, and lighting contractors build indoor skies of. These are the specialists who stand ready to help you. If you'd like a look at what lies behind their recommendations, send for a copy of the booklet called: "Architects and Engineers Handbook of Lighting Glassware."

Or, if you'd like to start at a different level, and see how many and varied are the tasks performed by Corning glass designed especially for thousands of practical and pleasurable uses, besides lighting, send for "Glass and You." It's a well illustrated little volume that shows in words and pictures how glass by Corning serves your interests in progress, profit, and better living. The coupon will bring you one or both books.



Corning means research in Glass

CORNING GLASS WORKS

20-4 Crystal Street, Corning, N.Y.

Please send me a copy of "Architects and Engineers Handbook of Lighting Glassware" and a copy of "Glass and You" .

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

MANAGEMENT

The Real Estate Side of an Executive Sh

Because of this...

At ABC Co.'s headquarters in New York:

- President stepped up to board chairman.
- Executive vice-president became president and chief officer.
- Sales director became executive vice-president.
- A new job was created to take over part of former sales director's work.

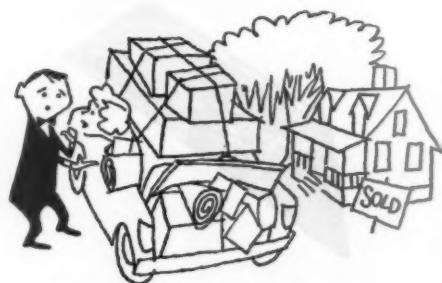
This happened ➤



3 BOSTON salesman Wilson was brought to New York to fill new job of sales training. He also had to buy and sell a house.



1 WEST COAST district sales manager Jones became new director of sales. This meant he had to sell his house in Los Angeles, buy a new one in New York area.



4 ATLANTA salesman Brown, a former employee, was rehired for Wilson's spot. He had to move—on his own—to Boston.

RESULT

The Real Estate Side of Executive Ch

It's not that there's anything unusual in the executive changes described in the illustration above. But they demonstrate neatly what can happen these days any time a company makes a move at the top, then has to fill in the rungs left vacant.

A single rubber company, for example, estimates that it moves 300 to 600 executives a year. In a General Motors or a Ford, the figure probably is in the thousands. Western Air Lines, Inc., has 2,000 employees, moves about 100 a year. One company spends nearly \$250,000 a year just on inside executive shiftings.

Then there are the mass moves—like the one National Supply Co. made recently when its sales department mi-

grated from Toledo to Pittsburgh. Or the transfer of Chilton Co. employees—about 180—from New York to Philadelphia in the publishing company's consolidation move going on right now. These are not isolated instances.

Almost all of them—the normal transfers and the mass moves—involve real estate transactions. Today, most people are homeowners, not renters. So a transfer means a house bought and sold for almost every employee moved.

• **How Much Help**—This week BUSINESS WEEK reporters around the country asked companies how far they are willing to go in defraying the expenses of moving a man—particularly when it comes to arranging housing.

Answers ranged between extremes.

Said a big West Coast oil company with lots of executive moving: "Under no circumstances will the company involve itself in the sale or purchase of a house, or advance money for down payment on a house until the employee gets his equity out of a sale of the old one."

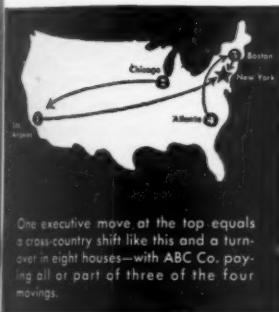
The other extreme was Ford Motor Co.: "In the case of salaried people, the company will offer to buy his house at a price on an appraisal of the fair market value made by outside agents."

The same goes for General Motors. In one case, it moved a man from Dayton to Detroit, bought his Dayton house, supplied him with listings in Detroit, arranged for financing—and, of course, paid all moving expenses.

utive Shake-Up



2 CHICAGO senior salesman Smith was promoted to Jones' job in Los Angeles. He had to sell his Chicago home, buy a new one in Los Angeles. (Smith was replaced by a Chicagoan.)



One executive move at the top equals a cross-country shift like this and a turnover in eight houses—with ABC Co. paying all or part of three of the four moving.

© BUSINESS WEEK

Changes

A Cleveland company will lend a man up to two-thirds of the equity he had in his old house without interest for 60 days.

Ordinarily, companies shy away from mixing into real estate, although an American Management Assn. survey shows that 25% of the companies will guarantee a man against loss on the sale of a house, and 20% will make direct loans for purchase of homes.

• **No Set Rule**—These figures may not reflect fully what companies do—only what they publicly say they do. Most often, each case is handled on its own merits. For instance, some companies will make salary advances, to be repaid in a few years, for down payments.

On guaranteeing against losses, a

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BUT do prospects know where your dealers are located right in their own neighborhoods?

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CALL THE TRADE MARK SERVICE REPRESENTATIVE AT YOUR TELEPHONE BUSINESS OFFICE. HE'LL BE GLAD TO SUBMIT A PLAN BEST SUITED TO YOUR DISTRIBUTION SET-UP.





Courtesy of Cleveland Pneumatic Tool Company

How our "tubular upsetting" saved \$70 in alloy steel

The aft main landing gear of the B-47 jet bomber has a piston tube which originally was machined from special, expensive 11-inch O.D. stock. Tube Turns forging engineers suggested using standard 10½-inch tubing with "tubular upsetting", one of our cost-cutting specialties. Result: The changeover saved \$70 in alloy steel alone. Weight of part was cut from 442 lbs. to 369 lbs.

Benefits like these are typical for Tube Turns' customers. Our know-how in all phases of forging design, engineering and quality-controlled production . . . our *complete* facilities and service . . . put teeth in our claim that we can give you the *best* in custom forgings at minimum cost. Let us show you!



Made by the world's leading manufacturer of
welding fittings and flanges for piping

TUBE TURNS
A DIVISION OF NATIONAL CYLINDER GAS COMPANY
LOUISVILLE 1, KENTUCKY

West Coast bank says it doesn't do so—then adds that one executive stands to lose \$5,000 on a house transaction, and some arrangement is being considered for him.

Without committing itself, except for covering every ordinary expense, Owens-Corning Fiberglas Corp. says: "One of the big things we are concerned with in making shifts is not to upset the family situation. We realize the quicker a man gets set up in a new job, the quicker he begins to produce."

Like everything else in this day of hot competition for management and technical **talent**, liberal policies are coming to be the rule.

Few companies like to talk about what they do, though. Any written policy—as GM and Ford have—may kick back when you have to deviate to meet the demands of a highly desirable executive change.

New England companies generally put it this way: "The time may come when competition for people isn't so tough. We don't want to be locked in with any agreements."

Still, a Boston company admits: "We can't imagine letting a wanted employee foot the twin bill of carrying a house he can't sell, except at a loss, and buying a new one somewhere else. Some financial assistance would come."

- **Mass Moves**—In mass moves, the case is different. Companies often go all-out. Northrop Aviation, Inc., along with three other companies, is moving several hundred people 60 miles from Los Angeles to Palmdale, Calif., to the new U.S. Air Force production and jet testing center. Its deal for employees: a relocation fee of \$10 a day for the employee, \$10 a day for his wife, and \$5 a day per child (average of two) for 30 days, plus transportation and all moving expenses. A family can move in one day, collect the \$900 to make a down payment on a house. Palmdale is booming, builders are doing a land-office business.

When it comes to moving whole departments or plants, companies ordinarily set up elaborate procedures for relocating people. In the case of National Supply, there is a traffic department to handle all problems. Time off was given, preliminary trips from Toledo to Pittsburgh were paid for, and free use of cars was permitted to search for homes.

- **Organization**—For normal shifting of employees, few companies so far have provided specific departments for handling moving costs and real estate transactions.

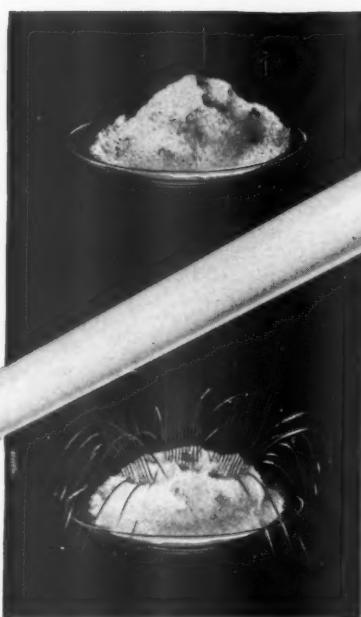
But some, like General Motors and Sears, Roebuck have definite arrangements. At Sears, with its hundreds of stores, there is "a man in charge of Household Moving."

GM with its vast organization has

Backing up the famous Sylvania money-back offer...

1. a laboratory- pure phosphor...

Efficient fluorescent lamp performance demands extremely close control of phosphor purity. In some phosphors, for instance, contamination in the order of 10 parts per million can play hob with lamp efficiency. That's why Sylvania maintains full laboratory control over phosphor purity from raw product to finished lamp.



2. a three-way bath...

For complete phosphor stability, Sylvania scrubs the faces of every tiny phosphor crystal three times . . . in acid . . . in an alkaline solution . . . in high-purity distilled water. The result? Stabilized phosphors that actually give you *more light per dollar* throughout lamp life.

... to bring you *Sylvania's*
6% bonus of light

ATTENTION TO DETAIL—all along the line at Sylvania—brings you important fluorescent lamp dividends, such as the famous *6% bonus of light*. Sylvania developments and manufacturing refinements let Sylvania back its lamps with the famous, signed money-back offer of better results. Thousands of users have switched to Sylvania—taking advantage of this famous money-back offer to prove for themselves that Sylvania lamps are better.

Check the uniformity of performance and appearance, the maintained brightness and life of Sylvania lamps against those you are now

using. If, in your opinion, they do not outperform your present lamps, send them back with your certificate, and Sylvania will refund the full purchase price. Order a trial lot from your Sylvania supplier today.

SYLVANIA ELECTRIC PRODUCTS INC.,
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University Tower Building,
St. Catherine Street, Montreal, P. Q.



**LIGHTING • RADIO • ELECTRONICS
TELEVISION • ATOMIC ENERGY**

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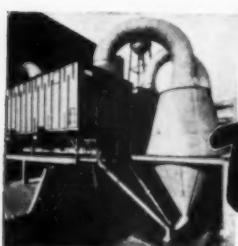
Don't let the Dust Hog sabotage your machines!

Recognize the shifty fellow above? If operations in your plant release uncontrolled dust, chances are he's afoot. He's the Dust Hog. And he is sabotaging your machines, for dust seeping into costly machinery soon ruins vital parts as surely as smashing them with a hammer. The result is downtime and high replacement costs.

Pangborn Dust Control puts a stop to that. By trapping dust at the source, Pangborn gives you many other advantages, too. With a Pangborn Dust Collector, you can reclaim valuable material in the dust, guard employee health, lower plant maintenance costs, improve employee relations and product quality.

Get rid of the Dust Hog! Pangborn engineers will be glad to show you how Pangborn Dry or Wet Dust Collectors can help solve your dust problem and save you time, trouble and money.

YOURS FOR THE ASKING! For more information, send for your free copy of "Out of the Realm of Dust." Write to: PANGBORN CORPORATION, 4200 Pangborn Blvd., Hagerstown, Md. Manufacturers of Blast Cleaning and Dust Control Equipment.



Pangborn

CONTROLS DUST

Argonaut Realty. It is a division of the company like any car division. It holds all of GM's real estate, acquires plant sites, operates something like a real estate company. It owns houses that it can sell to employees, if need be, when a move is made.

• **New Employer**—Mostly companies draw the line on any generosity they may display to current employees. New employees shift for themselves.

But that isn't true when it comes to highly skilled and sought after technical men—or some hotshot outside executive. In New England, companies are bemoaning what's expected of them in hiring new engineers—not only on housing but on everything that goes with a change in homes. On the West Coast, electronics experts are like hen's teeth—and most anything goes for a good one.

One man moving from San Francisco to Seattle had a stable of horses—and the company not only helped him find a house and wire it for 220 v. electricity for his new range, but boarded his horses and then paid their freight when he found a spot for them in Seattle.

• **Liberal**—Beyond the finding of houses, policies on general moving expenses are liberalizing. That's likely to spread, too, because, as an Akron employee said, "One more promotion and I'll have to resign. I can't afford them."

It's the parsimonious attitude of one company that a boost in pay is supposed to take care of the costs of uprooting a man. But another says, perhaps more realistically: "A man has to get a good big raise to pay for such uprooting—tangibles and intangibles." So the company is liberal—to the point of keeping one employee's kids in school in the Midwest until June vacation so they won't have to break away at midterm.

• **Policies Vary**—How far a company goes in paying for a man's expenses in moving often depends on the man and the job. Most pay the van charges and an employee's own travel expense. Others go farther. A good example is Boeing Airplane's policy. It provides: (1) transportation for man and family; (2) actual cost of moving, plus up to 60 days' storage of household goods with a limit of 8,000 lb. for a man with dependents, 1,000 lb. for a single man; (3) extra compensation at \$6 a day for the employee, \$4 for the first dependent, \$3 for the second, and \$2 for each additional up to a maximum of 45 days; an extra month's salary to cover miscellaneous expenses—refitting furniture, rugs, drapes—for a man with a family; and (5) travel insurance.

With business expanding and policies—such as rotation for executive training—that make moving a normal fact of business life, companies will continue to use relocation as one firm admitted it did: "It's a bargaining point."

This is the Otis Electronic Zone of Detection (illustrated in phantom). This zone extends in front of the leading edges of both hoistway and elevator car doors from floor to shoulder height. When a passenger enters this zone of detection the electrical effect of the passenger's body energizes

a series of electronic tubes. The tubes in turn permit the passage of current to operate the relays that control door operation. The result? The doors politely and obediently reverse before they can touch the passenger. This zone travels with the car and provides double-door protection at each floor.



Elevator door safety that can't be matched

FOR HIGH SPEED OPERATORLESS ELEVATORS

It's always well to remember that every elevator entrance has two doors. First, the hoistway door; and second, the elevator car door.

This is of utmost importance, because passengers on high speed operatorless elevators should always be protected from both the hoistway and elevator car doors — *for the greatest degree of safety!*

Otis Electronic Elevator Doors have an invisible, 3-dimensional electronic zone of detection (as illustrated in phantom) that extends in front of the leading edges of both hoistway and car doors from floor to shoulder height. When this electronic zone detects a passenger's presence in the doorway, the doors politely and obediently reverse before they can

touch the passenger. Otherwise, they keep on closing. This zone travels with the car and provides full protection at all floors.

This unmatched safety—*obtainable only with completely automatic AUTOTRONIC elevators*—is available at only slightly extra cost above such standard equipment as rubber-edged contact doors, electric rays, and single door protection.

More than 250 new and modernized office buildings, hotels, hospitals, banks and department stores have given AUTOTRONIC elevators an overwhelming vote of confidence — *by buying Autotronic!*

Your local Otis office has the details.

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AUTOTRONIC®
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International Amphitheatre, Chicago
May 16-20, 1955

WHEN BUSINESS MEN WANT BUSINESS NEWS THEY TURN TO BUSINESS WEEK

One-man, "do-it-yourself" handling equipment!



Every Magnecor Dockboard is designed for one-man, "do-it-yourself" handling . . . to help you eliminate both waiting time and lifting injuries.



Ramp-Dockboard combinations—Low dock, high truck problem solved with combination Ramp and Dockboard sections . . . and each can be moved by one man.



—And Yard Ramps for trailer and rail loading from ground level; moved and positioned by one man.

A new bulletin shows a variety of dock problems and solutions. It's titled, "What to do about it . . ." and is available on request.

For your free copy of the new bulletin, "What to do about it," clip this coupon to your business letterhead, print your name clearly . . . and mail to—

**MAGNEUM COMPANY
OF AMERICA** MATERIALS HANDLING DIV.
EAST CHICAGO 16, IND.



WHO WILL TAKE THIS DESK?

When Secretaries Are Scarce

There's an empty desk in many an executive office these days—not for want of a management man to fill the chair, but for want of a secretary.

First-class secretaries are always at a premium, but their scarcity is even more pronounced today. Business is expanding, creating high-level management posts by the thousands. The men who take those posts need more than a stenographer to expedite their work, but there aren't enough qualified secretaries to go around.

Employment agencies that specialize in placing women in office jobs are searching for supplies of any kind of office help—even the beginners they didn't care to bother with in the past because commissions were too low. A big New York agency says the business of placing secretaries in the \$75 to \$80 salary bracket has just about dried up. Secretaries are more inclined these days to negotiate their own new jobs.

- **Worse to Come**—The darkest aspect of the problem for employers is the near future. The low birth rate of the 1930s will continue for years to depress the supply of girls for secretarial jobs. Says the Women's Bureau of the Labor Dept.: "In 1950, there were about 19,000 fewer young women 20 to 24 years of age than there were in 1940, and approximately 1-million fewer girls 14 to 19 years of age. This means . . . the supply of young women workers will continue to decrease in the near future."

To make things worse, as *Charm* magazine points out in a current series of articles on job opportunities, the high marriage and birth rate of recent years have further cut into the supply of women who want office work.

- **Stopgaps**—To cope with the shortage,

management has tried a variety of tactics:

Outbidding other employers by steadily raising the salary scales. This practice mostly reshuffles the available labor supply, but it also helps to entice more girls into the profession.

Recruiting more beginners at the high school level. International Business Machines Corp. has just released a Hollywood-cast movie, titled *The Right Touch*, that sells the job of secretary harder than it does IBM's electric typewriters.

Setting up earn-as-you-learn secretarial schools to turn high school trainees into full-fledged secretaries.

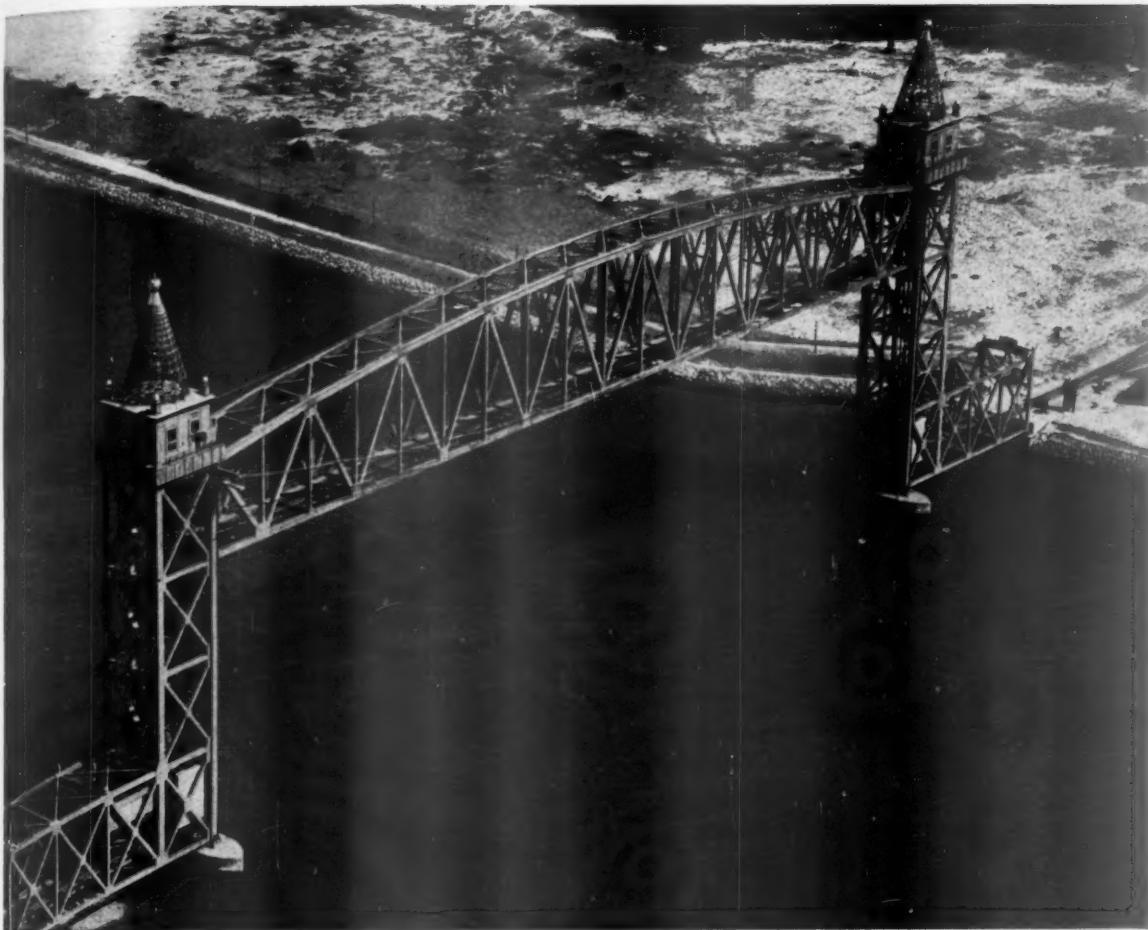
Stretching the present secretarial force by pooling the secretaries of middle and lower management or by farming out peak-load work (BW—Sep. 12 '53, p190). Some smaller companies are doing without their own secretaries; they either contract for this service or use centralized services provided by office buildings (BW—Oct. 9 '54, p92).

Raising the hiring age to include the older women who are now often frozen out of secretarial work when they find it necessary to look for new jobs.

Personnel people agree that the two most important measures are (1) bringing in more girls to start at the bottom and (2) holding onto the older women who may be the major new supply in the next few years.

- **Training**—Many companies that formerly required special training in secretarial schools are now enlisting girls as they come out of high school commercial courses and providing the secretarial training themselves.

John Hancock Mutual Life Insurance Co. in Boston, for example, pays trainees about \$45 a week while they



Cape Cod Canal Bridge, longest vertical lift bridge in the world.

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Perfect performance for 20 years

The main sheave bearings now in their 20th year of service on the Cape Cod Canal Bridge—the world's longest vertical lift bridge—have given excellent, trouble-free service.

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bascule, retractable and floating spans.

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Cape Cod Canal Bridge, Buzzards Bay, Mass.....	1935
Torrence Avenue Bridge, Chicago, Ill.....	1936
Lewiston-Clarkston Bridge, Washington-Idaho Border...	1939
The Commodore Schuyler F. Heim Bridge, Los Angeles, Calif....	1947
The Canal Street Bridge, Chicago, Ill.....	1948
North State Street Bridge, Chicago, Ill.....	1949
San Joaquin River Bridge, Mossdale, Calif.....	1948
Lake Washington Floating Bridge, Seattle, Wash.....	1940

And These New Bridges Under Construction

South Park Avenue Bridge, Buffalo, N. Y.
Turtle River Bridge, Brunswick, Ga.

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POWER and FREE *Flexibility* for Assembly, Testing, Live Storage

This Webb "Power and Free" conveyor system, in the automatic transmission plant of one of the "Big Three" automobile manufacturers, is a prime example of accomplishment in efficiency, reduction of production costs and elimination of manual materials handling.

Starting in the sub-assembly area, a Webb overhead trolley conveyor carries parts to the final assembly department (shown above) where two "Power and Free" conveyors take over and carry the transmissions through every assembly operation. After assembly is completed, another "Power and Free" conveyor provides live overhead storage for the transmissions until they can be taken by conveyor to the test stand area.

In a similar manner, all fifteen "Power and Free" conveyors, located throughout the plant, are synchronized into an automatic system that is thousands of feet long. From the receiving of transmission parts, through final assembly, several live storage areas, testing, and delivery to shipping, the transmissions never leave the Webb "Power and Free" Conveyors.

An ever increasing number of manufacturers are finding this system an ideal solution to their production requirements for a conveyor that provides a combination of automatic handling, stationary assembly facilities and live overhead storage.

Get The Facts—by writing to us on your company letterhead, we will place your name on our list to receive each month factual data describing time and cost savings in plants that have installed Webb conveyor systems.

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Offices and Representatives throughout the World

FACTORIES: DETROIT • LOS ANGELES • HAMILTON, CANADA

are attending Hancock's own school, and Raytheon Mfg. Co., also in the Boston area, offers \$52.50 a week. New York offices have been known to offer as much as \$70 a week to girls fresh from high school.

Of course, secretarial schools aren't happy about this idea. Their enrollments tend to fall off as more girls take advantage of the earn-as-you-learn programs of companies. The private schools have no placement problem but a real supply problem.

• **Older Women**—The National Secretaries Assn. is plugging hard for more consideration for women 35 years and older. NSA says some of its 13,000 members often find it hard to change jobs if they are above that age, although these career secretaries should be more valuable for their experience and judgment.

That's one reason NSA has pushed its Certified Professional Secretary program (BW-Feb. 6 '54 p98). Through arrangement with 50 colleges, NSA offers a stiff two-day examination in secretarial work, including business law, economics, and accounting. With a CPS rating, the association thinks an older woman can compete for a job on the basis of proved competence rather than age. The average age of those who have passed the CPS exams so far is 35.

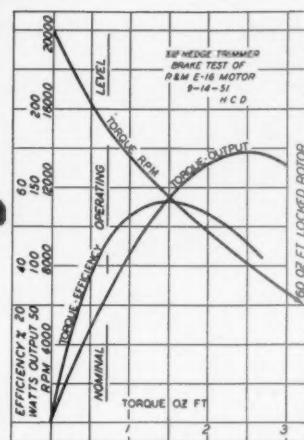
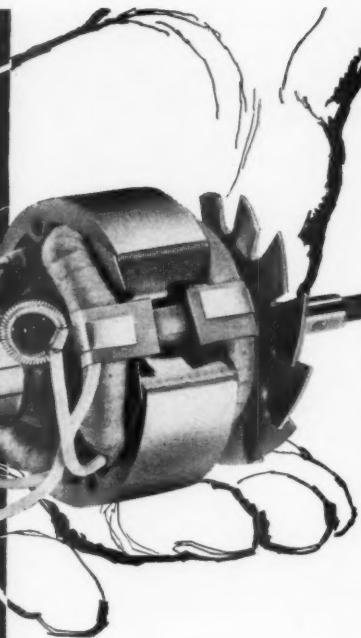
• **Need Convincing**—In spite of the claimed advantages of more experience and greater efficiency among secretaries over 35 years old, personnel directors seem hard to convince. "The younger they are, the more easily you can mold them into conformity with office routine," a personnel man put it.

The Labor Dept. notes that "a man is frequently considered too old to be hired at 45 years, a woman at 35—this is especially true for office work, the occupation employing the greatest number of women." The Women's Bureau of the department finds that the median age of secretaries, stenographers, and typists in the U.S. is about 26.

Yet the Welfare Federation of Cleveland's Occupational Planning Committee recently said: "If employers' job experiences with mature women workers have been as favorable as their responses indicate, hiring practices relative to older women in some firms in Cleveland are based not on fact but on prejudice."

The prevailing prejudice, says Charm magazine, takes this line of reasoning: "Young women fill this kind of job, so it must take a young woman to do the job."

The Labor Dept. Women's Bureau states: "A reevaluation of hiring and training policies in the light of these facts—that the supply of women is diminishing, that the trend for middle-aged women to work is increasing, that



Typical performance curves of the matched motor parts R & M designed for the Skil Hedge Trimmer, showing torque, efficiency, output and RPM under load.

R&M Motor Helps Skil Make Trouble-Free Hedge Trimmer

The most important single factor in motor-driven products is to get the right motor for the job. Much depends on proper correlation of motor and machine designs.

An outstanding example of good correlation is the Skil Hedge Trimmer. Skil Corporation engineers set rigid requirements for the motor. It must be light, compact, powerful. It must withstand rough handling, moisture, overloads. As they have for the past 25 years, Skil engineers gave these requirements to our motor-design specialists at R & M, told us to take it from there.

The result? A smooth-running motor that is rugged, dynamically balanced to withstand the 900-per-minute movement of the trimmer blade. This tiny motor develops nearly $\frac{1}{4}$ horsepower, with 6 ounce-feet of

blocking torque off the motor spindle, and a no-load speed of 20,000 RPM.

The final word, however, comes from Skil's service manager, who says the Skil Hedge Trimmer has a wonderful service record, giving outstanding performance with practically no motor failures.

If you have a motor-driven product, it will pay you to check with us at Robbins & Myers. We can supply you with a wide choice of types and sizes of complete motors or matched motor parts.

But, most important, we'll do a fast, thorough, economical job of custom-designing a motor that's correlated with your product. Don't settle for an "off-the-shelf" compromise. Write us today, Dept. BW, for complete information—no obligation, of course.



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Integral HP motors
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Household
Fans



Hoists and
Cranes



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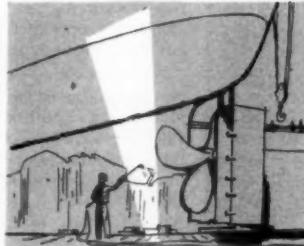
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KEEPS MARINE UPKEEP DOWN Sherwin-Williams Maintenance Finishes include a complete line of Marine Finishes for every need from bottom finishes bearing chemicals toxic to barnacles, to sun and salt-resistant topside paints.

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The primary job of such financial relations men at the policy-making level would be to keep stockholders happy.

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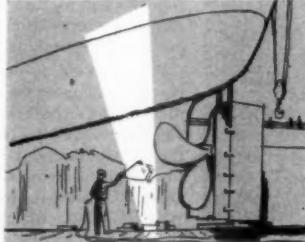


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1. Steel Sheet, smeared with die lubricant, is fed into the jaws of a powerful press that will deep draw it to the contour of a refrigerator door.



2. Smooth Finish is provided by grinding and polishing the door panel until the steel surface is bright and flawless.

Where Steel Goes Home-Hunting

Have you ever watched a woman select a refrigerator? She'll stand off and admire it, consider its capacity and color, check the conveniences it offers, examine its finish and compare it with others for styling and price. She wants the best looking, handiest, and most solidly constructed model she can fit into her kitchen and budget.

To give her what she wants takes better than ordinary steel. In today's competition, appliance manufacturers are insisting more than ever before on higher quality cold rolled steel sheets to meet high-speed production line requirements for producing the best looking appliances at lowest cost.

Many sheet steel users are specifying sheet steel from Pittsburgh Steel Company, where new equipment and the latest developments in electronic control are coupled with a half-century of know-how to produce exactly what is needed to meet these high-speed production line requirements.

- **What It Takes**—If you wonder why the quality of steel is so important, consider the appliance maker's problems for a moment.

The door panel for a refrigerator, for example, arrives at his plant as steel sheet. Fed into an 800-ton two-stroke ram press on one of his press lines, the sheet is deep drawn. Activ-



3. Steel Cabinets to encase the refrigerator are assembled and finished with careful precision for show-room appeal.



4. Glistening Coats of durable finishes in many colors are applied to the steel so that it will blend in with the dream kitchen.

Steel gets a two-way stretch



In forming the compressor shell for a refrigerator, disks of steel, $13\frac{1}{2}$ inches in diameter, are blanked from hot rolled drawing quality sheet (right). The blank feeds into a 200-ton double acting press (in background) where the first stroke draws it into a cup $3\frac{1}{2}$ inches deep. The next stroke turns the cup inside out, drawing it to a finished depth of $6\frac{1}{2}$ inches with a diameter of $6\frac{7}{8}$ inches.

ally the steel flows under tremendous pressure to make the strong, smooth-ly contoured door panel.

Each sheet must flow evenly to provide a complete door that has no surface imperfections such as grainy areas, seams, buckles, wrinkles, stretcher strains, or skin breaks and as this press can make eight door panels a minute, the steel must be absolutely uniform from sheet to sheet.

To provide uniformity, the steel's chemical composition cannot vary more than a few hundredths of one per cent. It must be clean and its grain structure must be controlled with microscopic accuracy. The finished cold rolled sheet cannot vary more than a few thousandths of an inch in thickness and must meet other close dimensional tolerances.

Whether it's a door panel, an outer cabinet, a compressor shell, or any

of more than a dozen special steel parts in a refrigerator, the story is always the same. The steel must have special inherent qualities to meet specific production line requirements and then go home-hunting.

• **How It Pays**—From modernized blast furnaces through to the newest sheet mills in the industry at Pittsburgh Steel, the making of steel is geared to meet the manufacturers' precise needs with the best that long experience and modern technology can produce.

If you use hot or cold rolled sheet steel in your operations, why not take advantage of the opportunities Pittsburgh can offer you in increased yield, longer die life, faster production, and better quality products. A phone call today to the office nearest you will bring prompt personal service.

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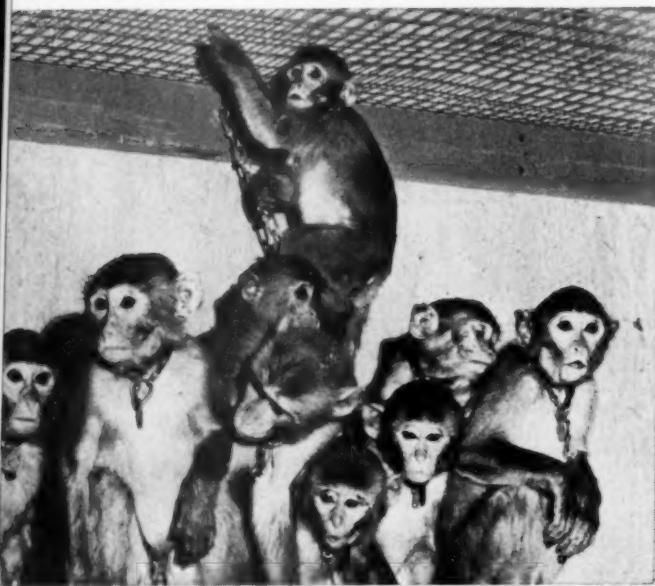
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After forming, the shell is trimmed, pierced and has fittings brazed into it. All parts must fit snugly, containing pressure without gaskets, to provide the heart-beat of the refrigerator as refrigerant is circulated. This ultra-modern, automatic equipment can produce up to 7,000 compressor shells daily.

RESEARCH



MONKEYS—about 100,000 of them a year—are needed to produce polio virus; it is grown on cultures of monkey kidney tissues.



CULTURES are made by removing kidneys aseptically, mincing them (above), mixing them with nutrients to foster growth.

Vaccine for Polio: The Problem No

FINAL STEP before packaging polio vaccine for use is to test it on a healthy monkey; the entire process takes 90 days. Six drug houses, producing the vaccine by this long and not completely understood process, now move into the spotlight.





THREE TYPES of polio virus are grown separately in these bottles. Then they are harvested into large jars, filtered, "killed" with formaldehyde to make vaccine.

Now Is Production

The vaccine produced by the steps shown in the pictures above—the Salk vaccine for poliomyelitis—is probably better known at its formal debut than any other vaccine in history.

This week's 113-page announcement that the vaccine is 80% to 90% effective marks the end of a medical research venture of unprecedented proportions and far more than usual public interest. Even the use of monkeys in its production has caused something of an international incident. So great has been the public support, participation, and just plain nosiness that the final report got news coverage almost rivaling a Presidential election. All this publicity has its disadvantages; it may create a demand far in excess of present production.

• **Bottleneck**—It will probably be the end of 1956 before the vaccine can be taken off priority distribution and handled as a shelf item. The drug houses and the National Foundation for Infantile Paralysis are trying to play down any talk of shortage; and under normal conditions of medical obscurity there would be no shortage. But the Salk vaccine situation is made to order for panic and hysteria—especially if there are any major polio outbreaks.

The chances are some people will contact paralytic polio this year—even though the preventive is known. There will continue to be rumors of favoritism, black-market prices, counterfeit produc-

tion—no matter what the industry and the medical profession do. The most optimistic estimate is that half the country's youngsters 16 years old or under can get the vaccine this year.

The bottleneck is production. Even if more companies were to jump on the bandwagon immediately, this year's polio season would be over before their vaccine was ready for shipment. It takes an average of 90 days to put one batch through. But there are other time problems in finding equipment, monkeys, and trained personnel.

I. The Next Polio Season

The results of last year's field trials have been known for certain for only a few days. But if anything had been drastically wrong along the line, it probably would have leaked out long before this. Bad news is very difficult to conceal.

• **Convincing**—The good news was therefore not unexpected. The National Foundation for Infantile Paralysis provided the clincher for some observers as long ago as last September. At that time the Foundation contracted for vaccine to inoculate 9-million children this spring.

This order helped to get the pharmaceutical houses interested in large-scale production. When you consider that the Foundation spent a total of \$22.4-million on scientific research over



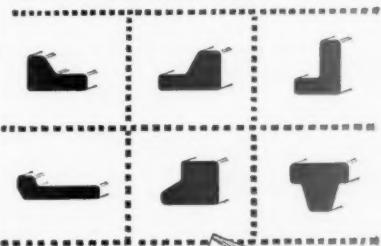
here's how

Flash butt - welding
of mill-rolled sections saved
\$186,888.00 for a jet engine
manufacturer

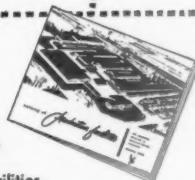
By designing the mill-rolled section shown above, instead of using a rectangular bar, 98 lbs. of metal per ring was saved. The cost of fabricating rings was reduced \$77.87 per ring.

Are you using machined rings or bands? Rolling and flash butt-welding of special mill-rolled sections may be able to effect similar economies. Write today for complete information. Our Product Development Division will be glad to work with you.

Typical Mill-Rolled Shapes Available



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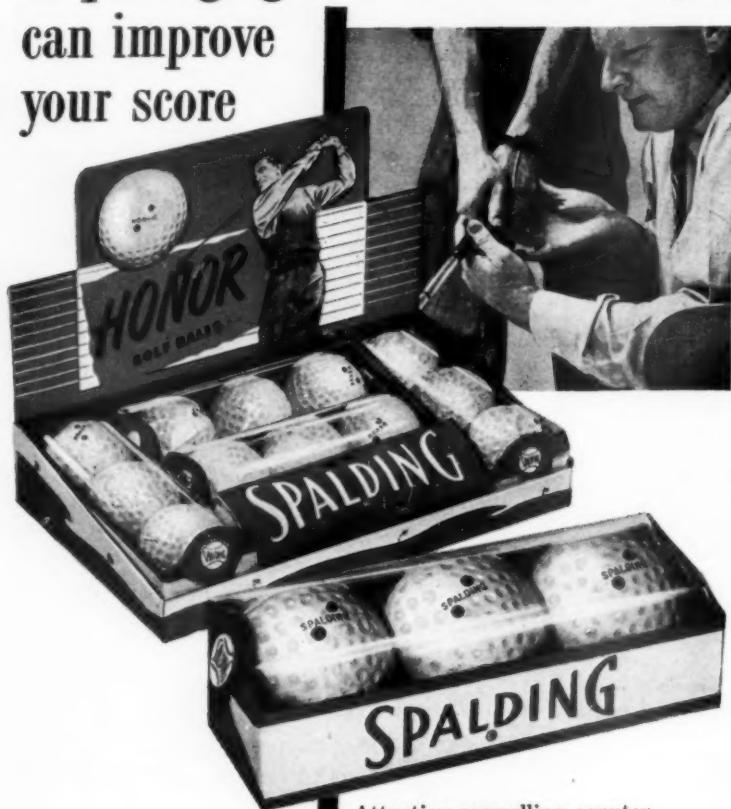


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case history
of successful
"packaging
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Attention-compelling counter merchandisers and mechanized packaging combine to make economical and effective sales tools for A. G. Spalding & Bros., Inc., famous sporting goods manufacturer.

The attractive container displays hold four 3-golf-ball units packaged in National's "Kliklok" trays, overwrapped in printed cellophane. Adaptable to automatic or semi-automatic handling, these versatile packages display merchandise attractively, protect it from dust and handling, stimulate impulse buying, and increase the unit of sale.

"Kliklok" is among many special types of packaging installations offered by National. One of them may save you money, increase the salability of your product, or both.



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the past 17 years, the more than \$8-million spent on last year's field trials and evaluation, plus the \$9-million for this year's vaccine, were pretty convincing.

Six companies are now in production: Cutter Laboratories, Eli Lilly & Co., Parke Davis Co., Pitman-Moore Co. (Allied Laboratories, Inc.), Sharp & Dohme, Inc. (Merck & Co.), and Wyeth Laboratories (American Home Products). Some of them had helped to produce the vaccine for last year's tests and now have sizable stocks ready for immediate shipment.

• **Shots**—The 9-million doses that the Foundation has contracted for—plus some vaccine left from last year—will be supplied without charge to 1,390,000 children who acted as the "control group" in last year's tests. (That is, they did not get the vaccine, while the rest of the 1,830,000 children did.) Vaccine will also be supplied free to the estimated 7,895,000 children in the first and second grades of public, private, and parochial schools.

Plans for giving these shots have been in the making for weeks in hundreds of communities across the country. Doctors, registered nurses, school principals, teachers, and volunteer workers from local chapters of the Foundation have been alerted. Syringes have been ordered by the thousand. Air freight companies had special flights standing by to rush orders to their destinations.

Vaccine supplied by the Foundation will be marked "not for sale." To prevent fraud and black-market operations, all licensed vaccine will bear the seal of approval of the National Institutes of Health of the U.S. Dept. of Health, Education & Welfare. The companies had to run their own field tests to satisfy the government inspectors as to the quality and safety of the product under the pure food and drug laws. Prompt approval is expected so that the vaccine can be distributed before the next polio season begins.

• **Cost**—But unless some new and simpler production method is found—or perhaps if European competition develops—the vaccine will remain expensive. Parke Davis and Eli Lilly have set a retail prescription price of \$6 for the three shots that make up an immunization. This price does not include the physician's charge for administering the injection. It's estimated that this year's commercial production will triple the 9-million immunizations that will be supplied through the Foundation.

• **Priorities**—Commercial distribution will follow roughly the same channels as other biologicals. But physicians, in prescribing the vaccine, will give preference to children and expectant mothers, the two most susceptible groups. The program was worked out in January by

\$8-million trial for the Foundation.

Some areas of the country where polio epidemics are more prevalent (Minneapolis and Houston have been at the top of the list for the last few years) will probably receive a larger share of the production. But it should be kept in mind that all children will receive some protection because other children with whom they play will have had shots so that there will be fewer potential carriers.

II. Cherry Pop

The next phase is production. In principle, production of Salk's vaccine is simple (pictures, pages 136-7). The virus is grown on cultures of monkey kidney tissue. It is then harvested, inactivated, and packaged. In practice, the process is complicated—partly because of the difficulties of tissue culture outside the living organism, and partly because of the newness of the technique.

• **Many Monkeys**—It starts with monkeys—lots of them. One estimate is that we will need 100,000 annually.

Rhesus monkeys from India are used most frequently for actual production. Cynomolgus monkeys from the Philippine Islands are used chiefly for testing. In the last week before the results were announced, a crisis developed in the monkey market. On a stopover in England, 390 monkeys were accidentally suffocated. India placed an immediate ban on exports of Rhesus monkeys. Representatives of the National Foundation, Eli Lilly, and Parke Davis are now in New Delhi trying to get the ban lifted.

Monkeys are essential for three reasons: (1) Viruses reproduce only in living tissue; (2) the poliomyelitis virus has a decided predilection for the tissues of primates; and (3) the monkey is the least expensive and most practical primate to handle on a large scale.

• **Kidneys**—The natural habitat of the poliomyelitis virus is the brain and spinal cord. But nerve cells don't survive very well in tissue culture. That's one reason why the kidney is used. In addition, certain proteins in the nervous system might be harmful if they carried over into the vaccine.

Kidneys are removed aseptically from a healthy monkey. The animal is examined before and after the operation.

The kidney is then minced, and mixed with the culture medium containing amino acids, dextrose, vitamins, and minerals—a total of 50 ingredients.

• **Tricky**—Cultures are gently rocked in jars in an incubator for six days to keep the tissue alive and growing. Then the medium is replaced with a fresh nutrient containing one of the

Rockwell Report

by W. F. ROCKWELL, JR.

President

Rockwell Manufacturing Company



RESEARCH WAS NEVER MORE IMPORTANT than it is today. Technological advances are coming so thick and fast that it is very easy for a complacent manufacturer to become outdated—and outdistanced—in a surprisingly short time.

A large share of our research effort is, of course, devoted to our present products and product lines. This involves a continuing critical examination of each individual product. Can performance or customer appeal be improved? Can manufacturing costs be cut? Is a new model needed? Should any of the present models be discontinued? What is the probable future growth (or shrinkage) of the market? All of this is done, naturally, with one alert eye on competition.

Another phase of our research is equally important: a continuing examination of the basic scientific developments flowing so rapidly out of university research centers, government laboratories, and non-profit research institutes. We attempt to evaluate new developments in terms of probable effects on our present products and markets, and in terms of the new opportunities and/or challenges they may present for the future.

With so much happening so fast in every field of science, it would not be difficult to dissipate a great deal of research time, energy and money by going in all directions at once and getting nowhere. Our Policy and Planning committee—made up of Research, Production, Marketing and Sales executives—is a safeguard against that. It is this group's function to keep research activities aimed at our long-range company objectives: continued growth through better products basic to the growth of our economy itself.

Whenever we acquire a company or a product, there is a problem of blending it into our marketing structure without losing the sales value of the old name, and without confusing salesmen, dealers, or customers. Over the years we have developed an orderly and, for us, successful method and "time-table" for making this transition as it applies to advertisements, literature, shipping cartons, product name plates, and plant identification. To help our advertising, sales, and production people make these changes smoothly and in unison, we have assembled the various steps into a booklet called "Transition."

A particularly underhanded kind of personnel pirating seems to be getting more prevalent. This is the subterfuge in which employment "counselors" write to a department head or other executive under the guise of asking him to "nominate someone" for a position which happens to be open. Then they describe a job comparable to his, but carrying a salary which they are pretty sure is considerably more than he is getting.

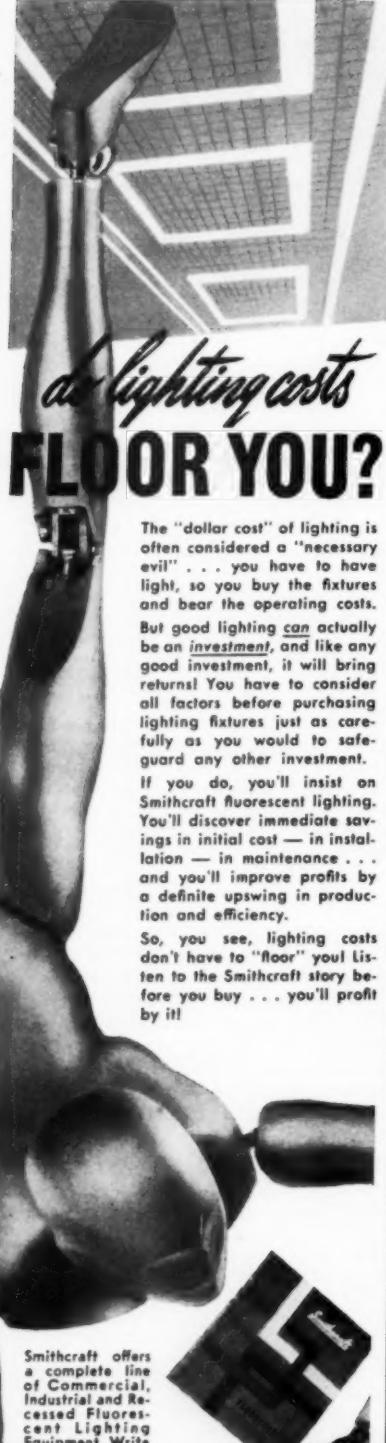
Frequently, especially for people relatively new in our organization, we reiterate our policy of never producing "junk" merchandise, never sacrificing quality for price. A letter from a customer helped dramatize the wisdom of that policy at a staff meeting not too long ago. The customer requested several minor parts for her Delta "American Girl Sewing Machine," which, she said, had never given her the slightest trouble until just recently. The significant fact is this: The last "American Girl Sewing Machine" was made more than a quarter-century ago, and this particular customer's may have been in use even longer than that.

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three polio virus strains. Each of the strains is grown separately. The virus-containing tissue is then put back in the incubator for four days, before harvesting into 5-gal. bottles. It is next passed through three filters of increasing fineness. At this point, the technicians are dealing with a very hot item—live polio virus. As a precaution, all workers are usually given gamma globulin shots.

Tests are made throughout the process to insure the proper virus content before the strains are mixed and before the virus is "killed" with a mild formaldehyde solution. The killing process is a tricky business. In the early days the whole batch was frequently ruined at this point because the virus must be inactivated only as to its disease-causing effects, not its antibody-producing effects.

The product as it emerges from the final test (on more monkeys) looks like cherry pop. It's bottled in 1-cc. vials. The process from monkey to vial takes 90 days. Equipment for large-scale production, while fairly standard, has cost some firms over \$1-million.

III. A Long Forward Pass

Despite the production headaches, the year 1955 will go down in medical history as a great turning point in man's struggle against disease. It may stand with 1796, the year Edward Jenner introduced vaccination against smallpox.

But the fight against polio is not over. Last year 74,000 people in this country were suffering from paralytic aftereffects of the disease; they will continue to need care. There is still no cure for the disease. Much has to be done to improve treatments and find simpler methods of diagnosis.

• **Offensive**—In a sense, we have barely started the offensive against polio. The significance of this week's announcement is that we now at last have a practical weapon.

The offensive can't begin too soon. In recent years we have been losing ground rapidly to the disease. Statistics from the National Foundation reveal that an average of 8,570 polio cases occurred each year during the period 1939 through 1943 for a rate per 100,000 population of 6.5. Last year there were close to 40,000 cases for a rate of 25 per 100,000 population.

"Poliomyelitis is essentially a disease of civilization," says Dr. Jonas E. Salk. "We find it only in civilized countries and not in the so-called underprivileged areas. It's rather interesting that as infant mortality drops, poliomyelitis begins to rise."

He explains that polio is not a serious disease when it attacks the very young infant, because the baby carries polio-

fighting antibodies from the mother. If infection does take place in infancy, the child develops an infection without associated paralysis. With civilization and rising standards of cleanliness, however, the infant does not come in contact with the virus early in life. So he remains susceptible. And then when he accidentally encounters the virus, he may become paralyzed.

• **Team Play**—All the world calls the new weapon against polio the Salk vaccine. But Dr. Salk says, "This is not the Salk vaccine. This is the poliomyelitis vaccine. It came about as the result of contributions made one upon the other not only by men working in the field of polio but by others working in related fields."

The 5-ft. bookshelf of published papers on polio research in the office of Dr. Hart E. Van Riper, medical director of the National Foundation for Infantile Paralysis, bears this out. Without such recent contributions as these, the vaccine would not have been possible at this time:

• A method for growing the polio viruses in cultures of non-nervous tissue was discovered in 1949 by Nobel Prize winners, Drs. John F. Enders, Thomas Weller, and Frederick Robbins.

• In 1951, it took coordinated work by four laboratories, using 17,500 monkeys and \$1,190,000, to identify the three types of virus responsible for human polio. Immunity to one did not mean immunity to the others. A triple vaccine was necessary.

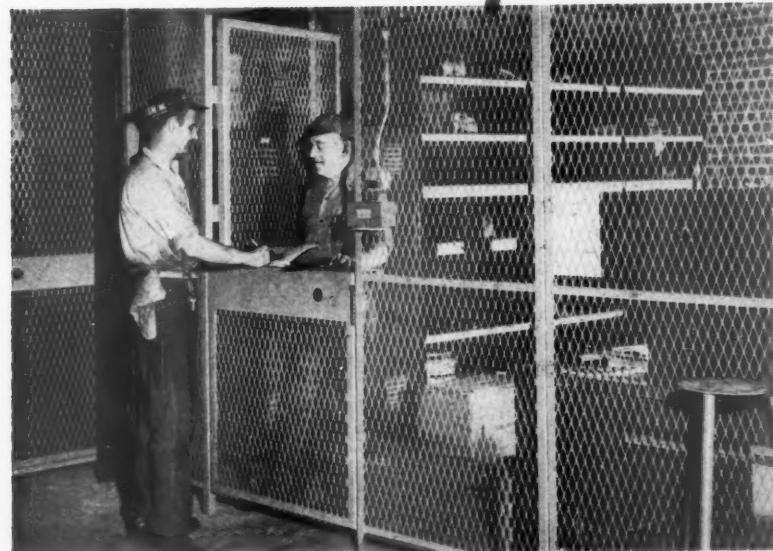
• Viremia (presence of virus in the blood) was demonstrated in 1952 by Drs. Dorothy Horstmann and David Bodian, independently. This showed where polio could be fought, and it was suggested a logical explanation for the observation of Dr. William McD. Hammon, who had found that small amounts of antibody contained in gamma globulin from human blood could confer temporary protection against the disease.

• **Touchdown**—Dr. Salk describes his contribution this way: "Enders threw a long forward pass and we happened at the place where the ball could be caught." Salk is the man who fitted the pieces together, found a way to get the three viruses to produce antibodies without producing polio.

In 1952, working under a March of Dimes grant of \$692,122, Salk developed a triple vaccine that protected monkeys against laboratory-induced polio. He then tried it on 161 human beings, including his wife and three sons. In 1953, he began a program to inoculate 5,000 persons in the Pittsburgh area, mostly children. Results were so encouraging that the National Foundation decided to support nationwide field trials last year. The results are now history.



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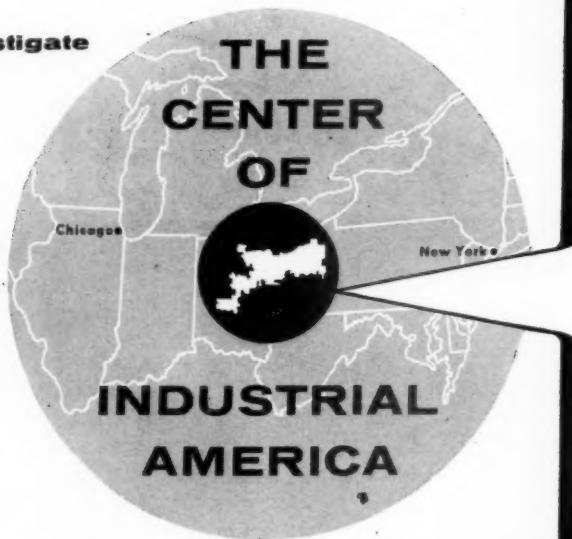
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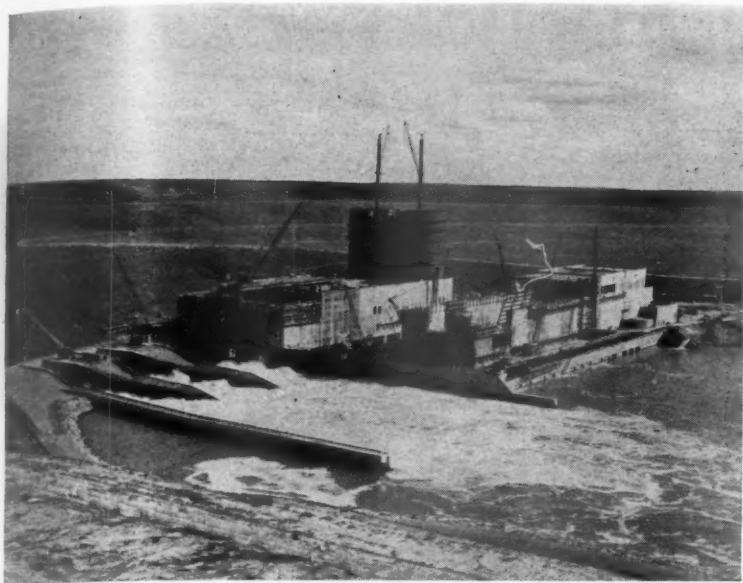
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Army Engineers at Garrison Dam (earth embankment, rear) are studying the effects of water releases on the river's ice cover. They may be . . .

Putting \$20-Million on Ice

Winter-long research project may lead to more power for Missouri Basin, eliminate a secondary dam.

A little research conducted in the shadow of the Missouri River's mammoth Garrison Dam is bringing about a shift in basic thinking about hydroelectric power generation among the Army Engineers. The winter's not over yet, and by North Dakota standards, 1954-55 has been relatively mild, so the results are still tentative. But it looks now as if the Engineers have hit on a way to operate generators on a peaking basis through the winter without building a \$20-million reregulating dam downstream.

Anything that can produce savings on the order of \$20-million is obviously a big problem. And in the Missouri Basin that problem is power. Despite the 1.5-million kilowatt capacity of the generators in the six Missouri River dams of the Army Engineers, there just isn't enough power to meet all demands. A real power pinch is expected in the Basin starting about 1958.

The dire prophecies can be softened somewhat by getting the most good out of the water available. Theoretically, this is best accomplished by operating the generators on a peaking basis. That is, steam generators carry the base load while water accumulates behind the dams. Then, during the afternoon and evening hours of peak consumption, water is run through the generators in great gobs to produce big chunks of peak power.

Peaking is not only good water management but, from the Army Engineers standpoint, it's good business. Demand peak power commands a premium price.

The hitch in operating a power station on a peaking basis in winter is ice. Peaking lets the water out in surges. The river may rise as much as three feet and then abruptly fall back.

Rapid fluctuations rip apart the ice cover immediately below the dam and send floes downstream where they pile up behind the first solid ice they encounter. The floes cause ice jams, which can cause damaging floods.

Because of the ice, only two alternatives appeared to be open in the past:

- Dams had to be operated to turn out power in a steady flow. Since power needs are year-round, winter limitations had to be held to in summer when there was no ice.

- Reregulating dams could be built

below the main dam to trap the surges and turn the water out in a steady stream that wouldn't fracture the ice.

This basic thinking was based on some tests conducted a few years ago at Montana's Fort Peck Dam where, after the river had frozen solidly, the Engineers released experimental slugs of water until the ice broke. They found that the most the water level could be varied with safety was plus or minus 20%.

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demands, the Engineers this winter have been re-examining the Fort Peck findings. Garrison Dam was selected for the tests because it is located in North Dakota, the state with the coldest winter climate, and on a section of the river where blue ice forms to a thickness of three feet, or even more on occasion.

Timing turned out to be the secret. The Fort Peck experiments were carried out after the river had frozen. The Garrison tests began before the freeze started.

The Garrison tests revealed that the river is held relatively high and surges are released at the time ice is forming, the menace of ice is largely overcome. The river stayed open for 20 miles downstream from Garrison Dam this winter. Below that the ice became an articulated, hinged mass that stayed in place and rose and fell with the water level.

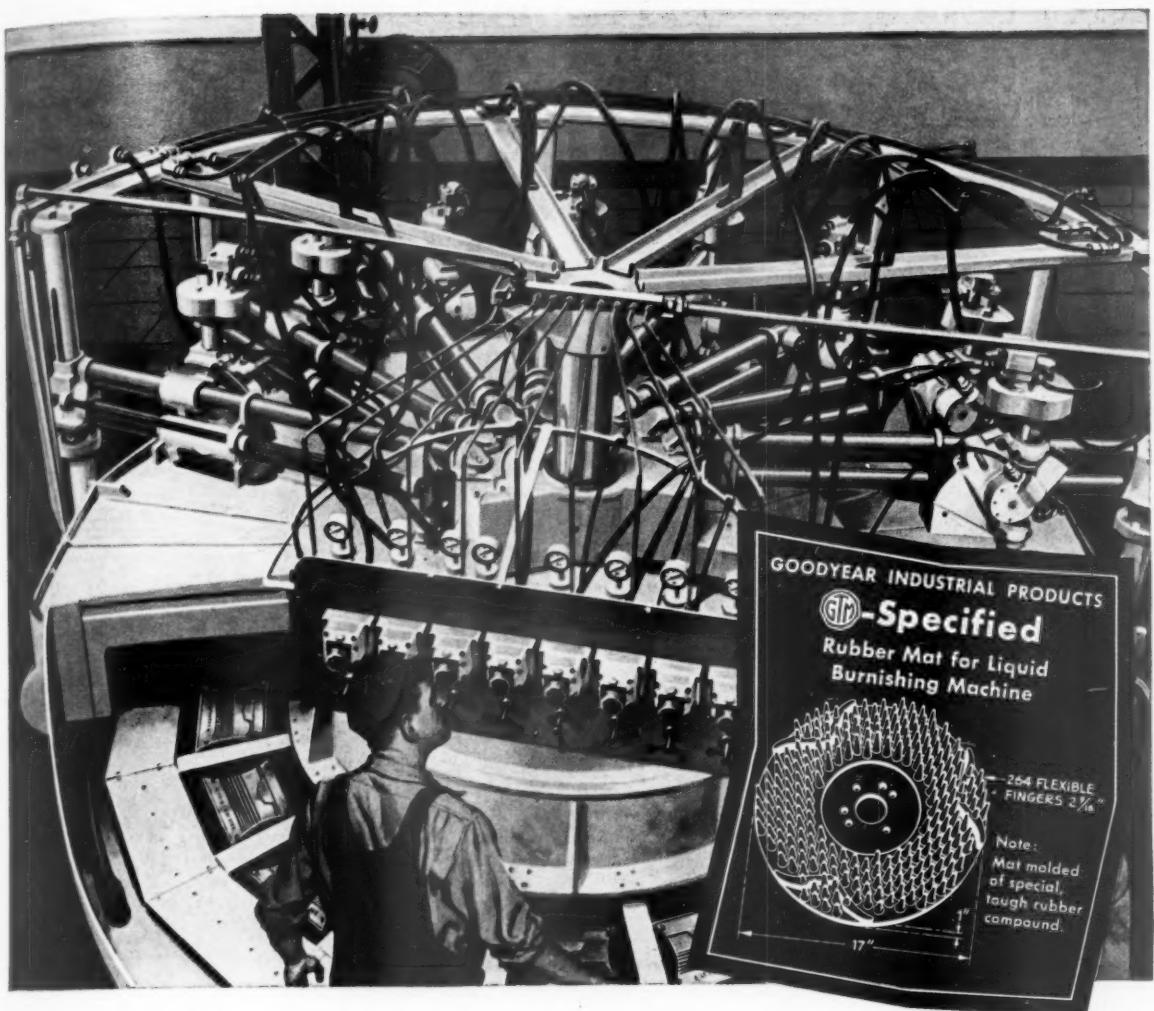
While the critical period of spring ice breakup is still ahead of them, the engineers are already thinking of contracts based on a big winter variation in flow of water through the generators. The contracts obviously have not yet been formulated, but it's clearly within the realm of possibility that they will anticipate a winter variation of plus or minus 40%—double the previous maxima. This means an increase in power—and power revenues. It pretty well eliminates the need for deregulating dams for Garrison and Oahe Dams. And it certainly points the way toward water releases that follow the power curve around the demand cycle.

RESEARCH BRIEFS

Aldosterone, a chemical substance recently identified in the blood, may help solve one of nature's enigmas: how the body repairs a wound. Dr. Hans Selye of Montreal described the wound-healing aspects of the new chemical at a recent session of the International Academy of Proctology in New York.

Linguistics researchers at the University of Illinois have come up with this startler: "A child has learned all there is to know about grammar by the time he reaches his third birthday." After that, they said, learning a language is chiefly learning more words.

National Science Foundation has granted \$132,000 to Harvard Observatory for a 60-ft. radio telescope to pick up radio noises sent out by cosmic gases and stars. It's big by U.S. standards, but small when compared to a 75-ft. antenna being built in Holland and 250-ft. instruments scheduled to be built in England and Australia.



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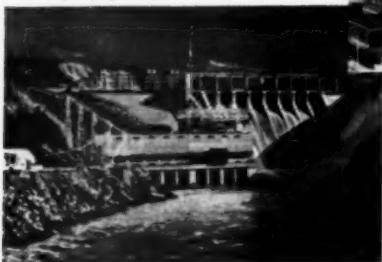
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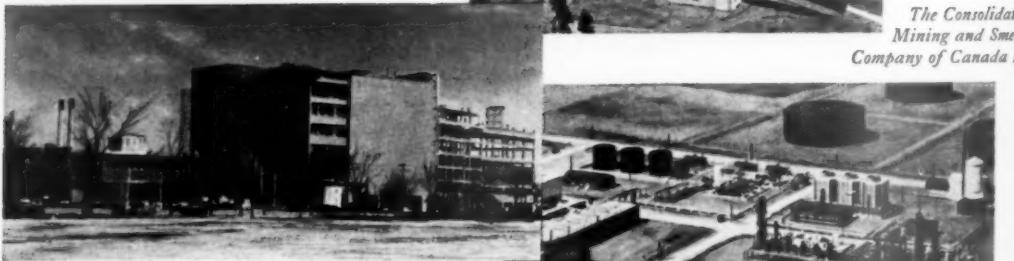
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INTERNATIONAL OUTLOOK

BUSINESS WEEK

APR. 16, 1955



A BUSINESS WEEK

SERVICE

Within two weeks Moscow and Peking should show their hands on two big East-West issues—Austria and Formosa Strait.

• Chancellor Raab of Austria is in Moscow this week to see if Soviet Foreign Minister Molotov will finally sign the Austrian peace treaty. If Molotov doesn't renege, you can expect a Big Four foreign ministers conference before long to sign the treaty and break the diplomatic deadlock on European affairs that has existed since the Berlin Conference of January, 1954.

• At next week's Afro-Asian meeting in Bandung (Indonesia) Asia's neutralist leaders, India's Nehru and Burma's U Nu, will try to convince Chou En-lai that shooting in Formosa Strait will hurt Peking's case in Asia. So before Bandung is over the West should have some clue as to how tough Red China really will be on Formosa Strait.

The Kremlin changed its tactics on Austria when Molotov invited Raab to Moscow. Until this invitation the Kremlin had flatly refused to negotiate about Austria unless the German problem was tied in. What's more, this is the first time that Moscow has gone into such important bilateral negotiations with a pro-Western country.

If Molotov and Raab should reach an agreement that could be submitted to a Big Four session, it probably would mean that the Kremlin wants to:

- Pose as the peacemaker in Europe and thus pressure Washington and London into accepting another international conference—one that would discuss European security but not German unity.
- Use the Austrian settlement as bait to tempt the West Germans into direct negotiations with Moscow.

As for Austria itself, Moscow plans to put it in a neutral position somewhat like Finland's. The country would become nominally independent—but lack the freedom to join Western Europe either militarily or economically.

The Austrian people don't relish this prospect. But they are so sick of the occupation that they are prepared to pay almost any price to get Soviet troops out. That means the U. S., Britain, and France will find it hard to reject a Molotov-Raab agreement, if it comes.

There is no possibility that Nehru and Chou will work out a negotiated Formosa Strait cease-fire at Bandung. In fact, Nehru has never expected that. What he is shooting for is a "gentlemen's agreement" from Chou not to start a shooting war. Nehru figures that if there were a de facto cease-fire for about six months, the U. S. would disengage from Matsu and Quemoy.

The outcome of the Nehru-Chou dickering is bound to influence the decision Pres. Eisenhower must make on the offshore islands.

—•—

European economic unity may get new impetus early next month. At that time the European Iron and Steel Community meets in Paris.

Paris observers expect the pool's directors to discuss:

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

APR. 16, 1955

• Extending the High Authority's control to include electric power—and possibly petroleum. Belgium's Spaak is expected to push for this and to get strong backing from the Germans and Italians.

• Making Jean Monnet—father of the coal-steel pool—chairman of the High Authority once more.

The Federal Reserve Board has purchased \$13-million in bankers acceptances (page 159) as a means of stimulating international trade. This is the first time the Federal Reserve has bought acceptances on its own initiative.

International money markets take the move as a sign that Washington is trying to smooth the way for convertibility of the pound sterling and other European currencies. A wide market in acceptances will be needed once convertibility comes.

Britain's Chancellor A. Butler has his own plans for making sterling convertible—once the British national election is over (page 150).

Butler may make some tax concessions in next week's budget—to help win over the voters. But he plans to tighten up the British economy—when the Conservatives are past the election. The new monetary measures—tougher than those he put through in February—would cut consumption and investment in Britain. The idea is to reduce imports and free a lot more resources for export business.

If this medicine works by this fall, Butler could go back to his basic program of promoting a freer British economy—including, this time, convertibility.

There's cheerful news from Tokyo this week. The Bank of Japan reports a favorable trade balance of \$341-million for the fiscal year ending April 1. That compares with a deficit of \$312-million for the previous year.

The Japanese picture isn't quite so good as it looks on the surface. Japan made almost all its export gains in the sterling and open account (barter) trading areas. What's more, the U.S. made heavy "special purchases" in Japan (some \$770-million during calendar 1954). And Japan cut its imports substantially last year—something that can't continue if it is to keep up its export drive.

There will be few surprises in the foreign aid message Pres. Eisenhower sends to Congress next week. He will ask Congress for \$3.5-billion over-all. Roughly \$1.2-billion of this will be for economic aid to free Asia.

The tricky question of how the aid should be administered has been settled this way: The Foreign Operations Administration will be moved into the State Dept. as a semi-autonomous organization.

At midweek Eisenhower hadn't picked the man to administer foreign aid.



Your Test Engineers



\$3,000,000 IN SILVER RECOVERED ANNUALLY—Denver Reclamation System helps recover this amount of silver from waste photographic film and papers in the world's largest plant of this type. Similar Denver Reclamation Systems in other industries recover platinum from refractory slag, aluminum, magnesium, zinc and manganese from slag, low ash coal from stream bottoms and reclaim waste paper for reuse.



\$64,000 NET PROFIT IN FOUR MONTHS—A large steel corporation recovers naphthalene from cooling water in their coke plant with a Denver Reclamation System. Recovery of the by-product naphthalene is 100%. Sale of the by-product naphthalene produced a net profit of \$64,000 in first four months of operation.



\$43,000 IS SAVED EACH YEAR by a large foundry because molding sand often discarded is now reclaimed with a Denver System. Test investigations often can take an operator's or plant engineer's idea and develop a system with profit that gives his plant a competitive advantage in a profit-light industry.

DECO Testing Lab Shows How Profits Can Be Recovered From Industrial Wastes

Here are a few case history examples of how industrial wastes have been turned into profits.

If you have a valuable product in your industrial waste, there is a Denver Reclamation System that can recover this product at a profit. If you feel there is a better way of converting your industrial wastes into profits, please give us the opportunity to work with you in proving it can be done.

The first step in the solution is a laboratory test. We have complete batch test and pilot plant facilities for crushing, grinding, classification, flotation and gravity concentration, leaching, separation, sampling, filtering, thickening, settling, drying and water reclamation, or anti-pollution investigations.

With our many years of experience, we may be able to help you! There is no obligation to you for a preliminary analysis and recommendation. We hope you will say, "Let's see what they can do for us!"

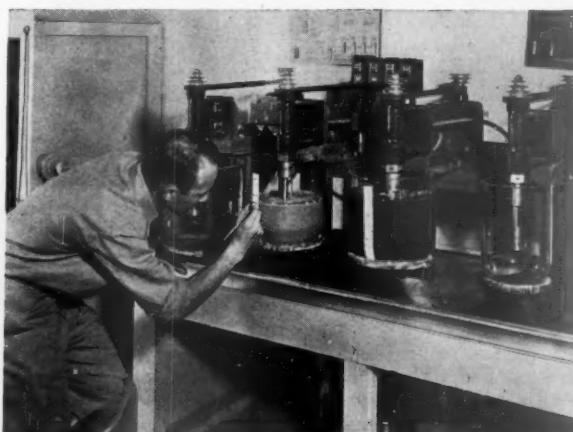
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BUSINESS ABROAD



ECONOMIC decisions are made by Chancellor of the Exchequer Richard A. Butler, party boss, with help of . . .



. . . Minister of Supply Reginald Maudling, who was formerly Butler's right-hand man as Economic Secretary of the Treasury.



FOREIGN Secretary Harold Macmillan—wartime Eisenhower colleague—heads foreign policy team, seconded by . . .



. . . Minister of Defense John Selwyn Brooke Lloyd, former Minister of State for Foreign Affairs and Supply Minister.

Strong Tory Team Aids Eden

Election fever is sweeping Britain this week. Unless the political dopesters are all dead wrong, Prime Minister Sir Anthony Eden has decided to call a general election for the second half of May. Eden is expected to make it official right after Exchequer Chancellor R. A. Butler (picture, top left), pre-

sents his budget to Parliament next Tuesday.

If this happens, the political temperature in Britain will really shoot up—especially in Conservative quarters. Most Conservatives are itching for an election, never felt more confident that things are going their way. They figure

that Churchill's retirement provides just the opportunity to put the party safely in power for another five years. (Eden must in any case call an election by the fall of 1956 at the latest.)

• **New Party, New Team**—The party politicians—and Butler is the chief of these—believe they have more to cash

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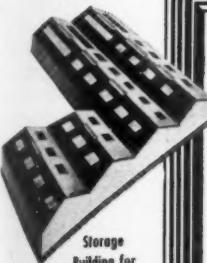
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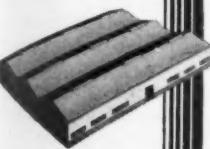
Storage Building for
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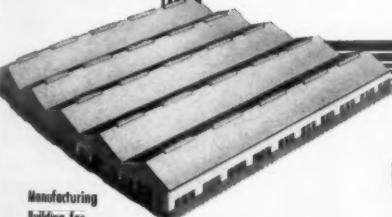
Warehouse and Loading Dock for
J. I. Case Co., Bettendorf, Iowa



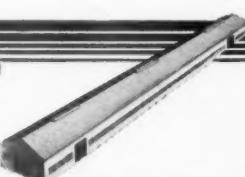
Manufacturing Building for
J. I. Case Co., Anniston, Alabama



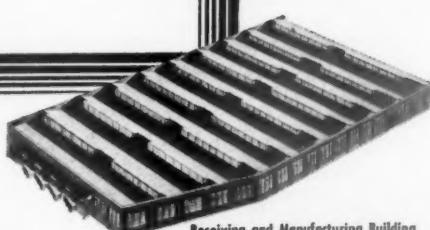
Truck Showrooms and
Warehouse for J. I. Case Co.,
Houston, Texas



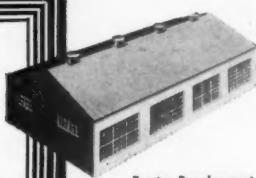
Manufacturing
Building for
J. I. Case Co., Stockton, California



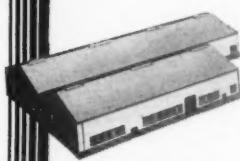
Storage Building for J. I. Case Co.,
Racine, Wisconsin



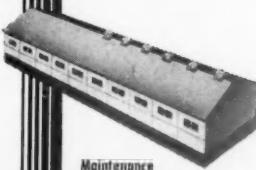
Receiving and Manufacturing Building
for J. I. Case Co., Racine, Wisconsin



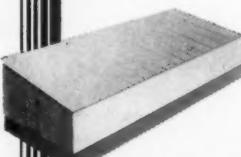
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and Testing Building for
J. I. Case Co., Racine, Wisconsin



Tool & Pattern Shop
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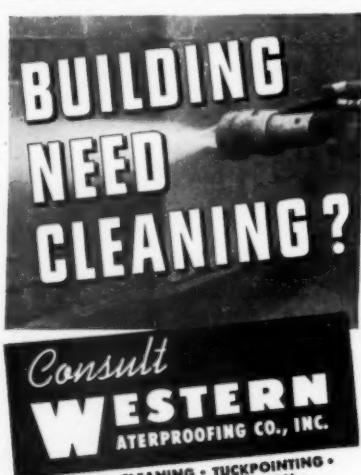
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... a new Conservative party attuned to mid-20th Century needs . . .

TORY TEAM starts on p. 150

in on than the double appeal of the old man retiring and the younger man taking over. They think they can go to the country as a new Conservative Party, with a program for both domestic and foreign policy that is attuned to the mid-20th Century needs of Britain.

They figure, too, that the Conservatives now have a Cabinet team (pictures, page 150) that will convince Britain's electors their program is the real thing—Butler and his 38-year-old protege, Reginald Maudling, making the decisions on economic policy; Harold Macmillan, at the Foreign Office, and Selwyn Lloyd, at Defense, helping Eden carry the ball on foreign policy.

• Labor in a Spot—The Conservatives are also counting on something else to help them—Labor's present weakness. They are gloating over the gains they have just made at Labor's expense in local elections. And there is no doubt that the Bevan-Attlee feud is raising doubts about Labor's ability to form an effective administration.

What's more, Labor has no real program for this election. About all the party's campaign orators can do is talk about the rising cost of living, high business dividends, and Labor's virtue as the "champion of peace." This line may hold the bulk of solid Labor supporters. But it can hardly get the party very far with middle-of-the-road voters, who decide elections in Britain just as they do here.

• Putting Ghosts to Rest—When the Conservatives were elected by a bare margin in 1951, many middle-of-the-road voters suspected that the Conservative Party was too obsolete to manage modern British society. They still feared the Tories as (1) a rich man's party; (2) a provoker of labor unrest; and (3) an opponent of full employment. And they suspected the Conservatives of being warmongers. It was suspicions of this sort that made Churchill's 1951 victory such a narrow squeak.

Since then, the Conservatives have lived down nearly all of these suspicions. As Chancellor, "Rab" Butler did a lot for small taxpayers, old age pensioners, and the trade unions. He never gave an inch to big business when it pressured him for a reduction of the surtax. Strikes did not increase. Full employment remained. And above all Britains had, in this period of Conservative rule, their first relief from

postwar restrictions and their first genuine boom in a generation. The increase in living costs that went along with this boom will be a major election issue. But it can hardly be decisive.

Actually, the Churchill government has been criticized by rightwing party members as much too "Socialist"—on grounds of encouraging union wage claims, fostering "overfull employment," and keeping income taxes up to pay for increasing welfare costs. Wits among this group of Conservatives say that Butler's economic policy is so much like Labor Chancellor Hugh Gaitskell's that the real Chancellor has been "Gaitskell."

Since 1951 the Conservatives have lived down the charge that they were warmongers. Churchill himself gave the lie to this accusation with the strenuous effort he made to get top level talks with Moscow. Eden's role last year in settling the Indo-China crisis at Geneva proved, at least to the satisfaction of the British voter, that he is committed to the only sensible British course—settling East-West differences by negotiation rather than war.

• Foreign Goals—If Eden's government is reelected, its foreign policy goals will undoubtedly remain Eden's, at least until Macmillan makes his mark on the Foreign Office. And Eden's aim clearly is to work for an ultimate modus vivendi between East and West—including atomic disarmament—as the only way to insure the survival of Britain and, indeed, the whole world.

In pursuing this goal, Eden and Macmillan will use what influence Britain has to reconcile world conflicts and to loosen the present hard lines between East and West. In doing so, they may often be walking a tight rope between conciliation and appeasement. But British observers are convinced that Eden will never go in for the latter. And they don't agree with Bevan's remark that Eden revels in the tactics of international relationships but "the broad strategy is beyond his scope."

Eden pins his faith on the U. S. alliance just as completely as Churchill did, though he talks about it in a lower key. He regards it as essential to collective security, whether this is pursued through the United Nations or alliances like NATO.

• Backing—Macmillan goes along with Eden on all essentials. He is expected to make his weight felt both in diplomatic negotiations and in Parliament. His claim to top office rests on two things: (1) As Minister of Housing he got far more houses built than any Labor minister; and (2) he has a devastating debating gift, which rattles the opposition in Parliament.

With Selwyn Lloyd at the Defense Ministry, Eden can count on two capable administrators and fast talkers

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MILAN FAIR, with exhibits by 65 U.S. firms, is one of 25 abroad where the . . .

U.S. Goes on Display

What started out to be a propaganda offensive against the Russians is turning into something of a find for U.S. businessmen: That's the trade fair program of the Dept. of Commerce. It is sparking U.S. participation in international trade fairs such as the Fiera Campionaria (above), which opened in Milan, Italy, this week.

The international fairs hark back to the Middle Ages, when European traders from far places gathered under the castle walls. Since World War II they have become big operations—with even the Russians throwing in vast exhibits of merchandise and propaganda.

• **Counteroffensive**—Pres. Eisenhower got worried last summer about the success the Russians were having at the fairs, pushing their line that they were interested in "peace" products and the U.S. only in "war" material. Out of his interest came a \$24-million appropriation for the Commerce Dept.'s Office of International Trade Fairs. This money is being used to set up official U.S. exhibits presenting "the American way of life" at 25 industrial fairs around the world this year.

The program has already had two spanking propaganda successes—Bangkok, Thailand (BW—Dec. 25 '54, p.20), and recently at Frankfurt, West Germany. An indication of U.S. success is the fact that the Russians are withdrawing from many of the fairs.

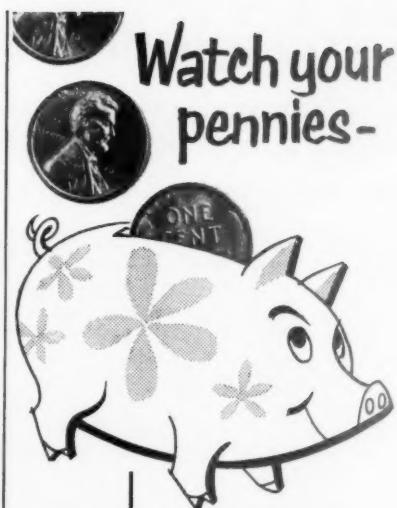
• **Opportunity**—While Commerce has been fighting the propaganda battle, at its urging many U.S. businessmen have become interested in the program. Here's why:

• The fairs provide an excellent opportunity to meet foreign customers. Even in dollar-short countries where U.S. firms can't expect to boost sales a great deal, some companies feel it's worthwhile to set up so that other U.S. competition doesn't nose them out. There's also a good chance to learn just what foreign customers want, to see what European manufacturers are making—especially for sale in markets such as Latin America, where they compete with U.S. goods.

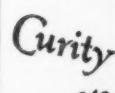
• It's a good place—with Commerce's help—to line up foreign distribution. The Department maintains a center for exchange of information, where you can list your name, address, and products—and even provides facilities for U.S. importers wanting to contact foreign manufacturers.

• Visiting one of the fairs in Europe—or in Tokyo in May (where the International Chamber of Commerce is meeting), or in Toronto May 30-June 10—is a good excuse for a trip abroad. The fairs usually last two weeks and are in metropolitan centers.

There's no guarantee, of course, that you'll do any business. But something must be cooking, for 65 U.S. firms set up their own exhibits at Milan this year, and some 500 American products are being shown. Companies represented include manufacturers of everything from cosmetics to heavy machinery. Many visitors, it's true, will be only sightseers (over 4-million at Milan last year), but large numbers of businessmen attend. At the Frankfurt fair this year, U.S. sellers took more than \$700,000 worth of orders.



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Global Rush to Douglas

Foreign airlines flock to the DC-7 . . . Steel prices in France head up; Europe faces a shortage . . . New venture for paper titan . . . Tiny wheels for Germany.

Foreign airlines winging their way to Douglas Aircraft Co. supplied more than 25% of the record-breaking total of orders that has just given Douglas the best quarter in the history of any transport aircraft manufacturer.

The big attraction is Douglas' new intercontinental carrier, the DC-7C, nicknamed the Seven Seas. The ship can cruise at 350 mph. and has an operating range of 5,000 mi. With spare parts, it sells for around \$3-million.

So far this year, these foreign flag carriers have ordered the new plane: South African Airways, 3; British Overseas Airways Corp., 10; KLM (Royal Dutch Airlines), 10; SAS (Scandinavian Airlines System), 8; Swissair, 4; Sabena (Belgian Airlines), 6.

What started the rush of orders was Pan American World Airways' decision to purchase 33 of the planes. Pan-Am is everybody's No. 1 competitor, and foreign flag carriers couldn't afford to be left behind.

There are other reasons, too. Air travel in the U.S. is up 40% over last winter, and international travel seems heading into a boom this summer. The North Atlantic carriers are looking for their biggest season ever—with some 600,000 U.S. tourists scheduled to take off by ship, plane, and auto for foreign parts.

Another factor in the rush of orders to Douglas is the snafu of the British jet program (BW—Oct. 30 '54, p76). BOAC, the British government airline, swallowed a bitter pill and decided to buy Douglas 7s and equip them with Rolls Royce turbo-prop engines. When it became apparent that the engines wouldn't be ready in time, the British had to drop this face-saving device in favor of all-American craft.

The other flag carriers couldn't wait around for jets either—with delivery in quantity not expected from the British until at least 1960. None of the carriers wants to be caught in an equipment squeeze as passenger traffic keeps climbing.

The steel industry in France is getting ready to raise prices, the largest boost since 1953. Steelmen think other European producers will follow suit before long.

The world's continuing rush for iron

and steel scrap is an important factor in the price move (BW—Mar. 5 '55, p113). The French, for example, point to rising scrap prices, to the fact that Italians are taking large amounts of French scrap, and that France can make up only part of its scrap deficit from the U.S., far and away the world's largest scrap supplier. You hear the scrap story everywhere—even in Japan, where this week the government's "Fair Trade Commission" agreed to permit the scrap-starved steel industry to form a cartel to buy scrap.

The U.S. government is torn between the demands of U.S. steel mills and the needs of booming European hearths. For the time, it appears, scrap export controls will stay as is: Export licenses are required, but they have little effect on the volume of shipments. Exports during the first three months came to over 1-million tons, compared to 1.6-million tons for all of 1954.

A steel shortage looms in Europe this year, according to *The Iron Age*. Producers abroad are short on capacity, long on demand.

The magazine reports this week that steel orders from Europe—half a million tons of them—are going begging in this country. U.S. producers are so busy taking care of their "bread-and-butter domestic customers," says *Iron Age*, that they are not interested in foreign orders.

When Bowater Paper Co. Ltd., Britain's titan of newsprint, opened a mill in Tennessee last fall, Chmn. Sir Eric Bowater put the world on notice that other enterprises in North America were brewing (BW—Oct. 16 '54, p166). This week brought news of Bowater's expansion into power development—in Newfoundland.

Bowater Power Co. Ltd.—incorporated in Newfoundland—has been established; its immediate task is to take over and operate the 150,000-hp. hydroelectric plant serving Bowater's huge Corner Brook (Nfld.) paper mill, and various towns and industries nearby.

Value of the assets involved is more than \$34-million. Looking further ahead, Bowater reports that demand for

electric power in the area is increasing rapidly, and that the new company is going into further development of Newfoundland's promising—and largely untapped—resources.



Goggomobil . . .



. . . Fuldamobil . . .



. . . Messerschmitt.

These tiny little cars (the largest is less than 120-in. long) are an attempt by West German manufacturers to crack open a new market: Germans who can't afford fuel and upkeep for the Volkswagen (BW—Apr. 9 '55, p140), or other "small" cars of Europe.

They are designed to appeal to many who have chosen motorcycles and scooters over the years because of low operating expenses rather than for love of sport. The Fuldamobil and the Messerschmitt—a brainchild of the aircraft designer—are only glorified motorcycles since both have three-wheel chassis. They get as much as 100 mi. per gal. The manufacturers hope that cheap operation will offset their relatively high purchase prices, which range from \$350 to \$625—the cost of a good secondhand American car in Germany.

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THE MARKETS

Wall St. Talks . . .

... about first-quarter showings . . . a punctured atom rumor . . . slackening of bank merger trend.

Biggest first-quarter winners on the Big Board according to H. Hentz & Co., were Hupp Corp., up 156%; and Andes Copper, up 116%. In all, 51 stocks showed gains of at least 33%. Off 10% to 31% were 68 issues. But losers were also plentiful.

Market letter gleanings: "Our advice . . . Limit speculative commitments; . . . [buy more] . . . defensive shares; search for neglected issues; maintain adequate cash reserves." (Shaskan & Co.) . . . "Until the outlook clarifies . . . the market may have difficulty regaining its vigor." (Hornblower & Weeks.)

"Any considerable profit . . . from nuclear power activities is some years away." That's what Pres. Alfred I. Iddles of Babcock & Wilcox told the annual meeting last week. By saying it, he punctured a Big Board "atomic age party" that was beginning to rival the one staged earlier by General Dynamics stock, grand daddy of all "atomic fliers." This week, B. & W.'s shares were back at \$99 after having shot up 73%, to \$114. Streeters applaud Iddles' deflation of rumors.

Has New York's bank merger trend ended at least temporarily? Yes, say many bank stock traders, despite continued faint rumors that Guaranty Trust and Manufacturers Trust will marry. They argue that some recent mergers have resulted in so much "duplication" of accounts that officials of still unmerged banks are now exclusively interested in "stealing" for themselves as many as possible of these.

Big Board odd lot customers are more conservative than their round lot brothers. That's one revealing finding of a Stock Exchange survey covering trading activity of "public individuals," on Dec. 8 and 15. This showed that: (1) 72% of odd lot transactions were on a cash basis compared with only 45% for round lots; (2) 73% of odd lot buying represented "long-term investing," against only some 53% for round lot buying.

INDUSTRIAL STOCKS:



Breaking Through Again

At midweek, Standard & Poor's daily average of 50 industrial stocks hit a new bull market high (chart), eclipsing the previous high of 385.8, set on the second day of the Fulbright hearings, by nearly two points.

The Wall Streeters who still cling to the shreds of the Dow theory were ecstatic. For them the breakthrough of the industrials was of major significance. It "confirmed" the move of the rails last week to a new 25-year high. Such confirmation, by Dow precepts, constitutes a clear signal that a further general bull market advance is in store.

In the midst of the jubilant talk of new highs, there was some sober introspection, too. Actually, the industrials were only 16.3 points away from Tuesday's peak at the end of last January. This represents a rise of only 4.4% in more than a quarter of the year. By contrast, Standard & Poor's 50 industrials rose 12.1% in the final quarter of 1954, and in the second quarter of that year, which was perhaps the slowest moving quarter from September, 1953, to last December, the industrials gained 9.3%.

• **Slim Volume**—This slow movement through the middle of this week may

be giving way to something that could take on the proportions of a major rise. But some things still worry the technicians: Volume has been slim on the upside, and trading in key issues has been sluggish. The big gainers have been in the "specialties"; the nonferrous metals on the strength of price increases, the drug firms manufacturing the heralded Salk polio vaccine, and the "atomic rumor" group. And at midweek long-held fears of tighter money were realized. The Federal Reserve raised the rediscount rate by $\frac{1}{4}$ of 1% to 11% (page 17).

One group that has taken it on the chin lately is the aircrafts, which have long been in the vanguard of the bull market. At midweek, Douglas Aircraft stood at \$72.25, or \$19 below its 1955 high, Boeing was \$70.75, compared to its high of \$88.50, and Lockheed was selling at \$48.00 compared with its high of \$64.25.

While the blue chips haven't shown any significant rise in trading activity, there have been enough dollar gains among them to hearten bulls who were bemoaning their poor performance just a few weeks ago. The rail average particularly mirrored the leadership of

the blue chips in its recent ascent. • **Skepticism**—It may be hard to see why the market isn't performing better in the face of the best steel production in two years, peak automobile production, new highs in factory employment and personal income, and indicated gains in earnings. But there is a very real reason: Investors are still skeptical about the course of business through the second half of this year. The un-

certainty caused by bargaining over the guaranteed annual wage has been reflected in a sharp drop in trading in General Motors and Chrysler Corp. stock. GM traded 52,800 shares last week, compared with 159,000 in the same week a month ago, and 78,900 two months ago. Chrysler traded 46,000 shares last week, 102,000 in the first week of March, and 142,700 in the first week of February.

Acceptances: Fed's New Tool

Without fanfare, the Federal Reserve Board announced in Washington last week that the Reserve Bank of New York is now buying bankers' acceptances for the Federal Open Market account at the going market price.

The amount of the initial purchase was not large—only \$13-million. But the purchase itself had important significance for both the money market and international trade.

The Fed's going into the market to buy acceptances, which are widely used to finance import-export trade, signals that it is intent on aiding the Administration's efforts to expand trade. A broad and liquid acceptance market is a big step towards the full convertibility of currency. Buying acceptances will not bring convertibility, but the fact that a market exists is necessary when, as, and if convertibility comes about.

The step should also prove a useful device for providing temporary increases in reserves for credit when seasonal demands are high. For example, the Fed can buy when demand for farm crop and other commodity loans is at its peak, relieving any tightness that ordinarily would occur. Thus, last week's action indicates that the Fed will use its latest instrument to counteract seasonal money market disturbances.

• **Making Good**—A banker's acceptance is a bill of exchange under which a bank guarantees to make good on buyer's promise to pay at a future date. With the bank's guarantee the acceptance is readily salable by the holder who wants to realize cash for it immediately, rather than wait for the date of payment.

Acceptances have long been a popular short-term credit instrument in London. And for years they have been favorite investments of European banks. (For years the Fed has been buying them for the account of European institutions.) And the Fed's full-fledged entrance into the acceptance market as a buyer for its own account is, in part, the outgrowth of considerable study by

a group set up by its Open Market Committee to find means of facilitating foreign trade transactions.

As most acceptances are short-term—90 days or less—they give the Fed a lot of flexibility. Unlike Treasury bills, there's never any renewal or exchange in handling. If the Fed feels the money market is getting tight, it can ease the market temporarily by buying acceptances. If it wants to reduce its holdings it doesn't need to sell—it has only to wait a short time until its acceptances mature.

Previously the Fed posted only acceptance buying rates, and purchased only those offered at the posted rates on the initiative of sellers. Up to last week, moreover, it had had no occasion for over four years to do even this sort of buying. One reason for the inactivity was a decline since 1929 in the use of acceptances as credit instruments. Last year, however, interest in using them revived, particularly in import-export transactions. By the start of this year, the total outstanding had risen to around \$875-million compared with \$575-million a year earlier.

"The Fed made an attempt several years ago to popularize bankers' acceptances as a credit instrument," says one banker. But "conventional loans," he adds, "are still preferred by most business borrowers, particularly if there is no saving in borrowing costs."

Nonetheless, the Fed now thinks that if acceptances were more widely understood, they might be used more widely in international business dealings. And with the dollar accepted today as the world's leading currency, the Fed would like those abroad who buy and sell here to know they may use acceptances to close both purchasing and selling operations on a dollar basis.

The cost of using bankers' acceptances—1½% acceptance commission and 1½% discount—is at present directly in line with the 3% prime rate charged by New York bankers to borrowers considered "prime risks."



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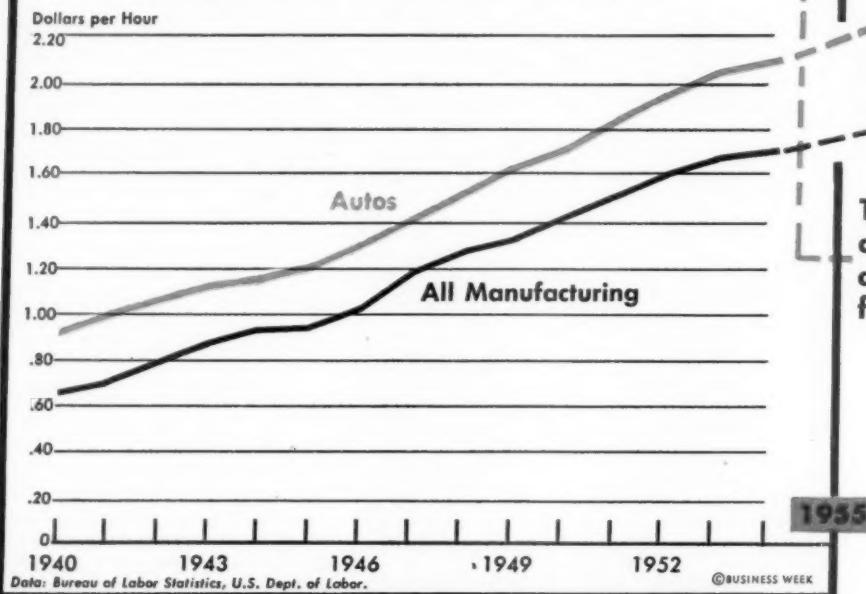
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Word is being passed around the top circle in CIO's United Auto Workers that next week will see things really moving in the negotiations with General Motors and Ford.

Along with that word came the first real hint of UAW bargaining strategy. The strategy: Play the companies against each other.

UAW leaders who weren't at the GM and Ford meetings were told that the first week had been used for three purposes:

- Outlining the entire list of demands.
- Making it crystal clear that the guaranteed annual wage was not going to be traded off.
- Probing the companies' attitudes.

• **No Tandem**—The shape of union strategy is being molded by what the UAW negotiating teams have concluded about Ford's and GM's contrasting approaches to the bargaining. Their finding: For the present, at least, GM and Ford are not working together.

Along with almost everybody else in Detroit who has an ear cocked, UAW had heard the story that an effort was made last month to develop some coordination between GM and Ford for 1955 bargaining. Purportedly, the effort

came to naught. But the union couldn't be sure. Nor is it absolutely sure yet. But it thinks it has seen and heard enough to start moving on the assumption that no such coordination exists. Indeed, it's taking seriously some indications that, far from working together, the negotiating teams would enjoy complicating things for each other.

• **Divide and Conquer**—Next week UAW will move on the basis of that hypothesis. Having listed all of its demands and made its point about its seriousness on GAW, it will say to one company—probably Ford—"Let's put all the other issues aside and get GAW settled." It will say to the other company, "Let's put GAW aside and get wage rates and all non-GAW issues settled."

Success with that program would be divide and conquer—with a vengeance. Each company would be bargaining not only for itself, but for the other as well. But it could bargain on only part of the issues and would thus be deprived of trading latitude.

Once UAW got its separate and partial settlements, it would put them together and insist that both companies take the sum.

• **Wide Effect**—Quite understandably, the importance of wage rates in the

Detroit negotiations has been largely overlooked. The widely publicized and dramatic issue of GAW has captured most of the attention. But thousands of employers for whom the GAW is remote, regardless of what happens in the auto industry now, will be directly and immediately affected by a Detroit wage settlement.

UAW made some wage history in 1948 when it agreed to an escalator-improvement factor formula for determining wage changes. In setting forth its 1955 wage demand, the union itself cites the significance of the formula: "The fact that the formula is in effect in major pattern-setting corporations makes the wage gains achieved under it an important guidepost in practically every important collective bargaining session throughout the nation."

And it is the workings of this formula that UAW now seeks to change.

• **Formula for Increases**—To understand what UAW is getting at in its 1955 wage demands, you have to recall the way wages have been determined since 1948. Contracts signed that year provided two adjustments:

- Hourly wages were related to the cost-of-living index published by the Dept. of Labor's Bureau of Labor Statistics. Wages were to go up or

down whenever the index moved an agreed-upon number of points.

• It was assumed that, irrespective of changes in the cost-of-living, the value of an hour's work would continue to increase as the total economy expanded. This increase was set at 2% a year. Titled an "improvement factor," it called for an increase in the hourly wage rate of 2% each year.

• **One-Way Float**—In 1948, the cost-of-living increase or decrease in pay was set at 1% for each 1.14-point change in the index. The improvement factor was 3¢ an hour. In 1950, the improvement factor became 4¢ because the annual productivity increase was calculated at 2.5%. In 1953, because the BLS index had been changed, the cost-of-living increase or decrease was set at 1¢ for each 0.6-point change in the index. At the same time, the improvement factor moved up to 5¢ an hour. This was due to the fact that base wages had gone up, and 4¢ would be less than a 2.5% increase.

One important aspect of the improvement factor increases has sometimes been overlooked. While the increases under escalation were a "float" that was subject to downward revision, the improvement raises—5¢ an hour for the past two years—were added to the base pay. In 1953, 19¢ of the escalator float also was added to the base pay.

• **Interpretation**—One more bit of background is necessary to understand UAW's current wage demands: The union claims—and supports its stand with quotations from a GM brief in 1948—that improvement factor raises were to be compounded. For example, if the average was \$1, the first improvement raise would be 2.5¢ (2.5% of \$1). In four years a total of 10¢ would have been added to the base pay of \$1. So a 2.5% increase would not be 2.5¢—it would be 2.75¢ (or 2.5% of \$1.10).

Against that background, it is easy to see what the union is shooting for in its 1955 wage demands. The union says that, since 1948, wage increases for its members have totaled 46¢ due to both the escalation principle and the improvement factor. If the compounding formula had been followed, as UAW says was intended, the increases should have totaled 51.3¢. So it wants an immediate increase of 5.3¢.

• **Self-Feeding Raises**—UAW is also asking that the present 6¢ "cost-of-living float" be added to pay. This makes at least 11.3¢ that the union probably will demand. The actual cents-per-hour increases—large as they would bulk for a company the size of GM or Ford—are not so important as the principle that UAW is expounding in its wage demands. The way the union is arguing, wage increases would feed on themselves.

First, in the compounding of the improvement factor, the cents-per-hour involved would increase each year. Then if you do that, says UAW, you have to change the relationship between the BLS index and wage every time you add the improvement factor to the base rate. So the importance of the average 0.6-point change as the guidepost would constantly shrink.

More than that, UAW says the improvement factor should be enlarged "to bring it more realistically into line with the actual increases in national productivity on which in theory the improvement factor is based." So instead of a 2.5% annual increase, UAW could ask a 3% increase, and the cents-per-hour gain would go up even faster than under the present formula.

• **Pyramiding**—There is one more demand that fits into this ever-growing wage concept. The union wants a "floating base" in its escalation. In other words, when the escalation float—the total increase under the escalation provision—reached a certain figure, increases would be transferred to the base wage rate. Thus, that feature would also pyramid the base on which the improvement factor was to be compounded and calculated.

• **Management's Spot**—The tough thing for management to reckon with in all this is that—except for outright acknowledgement of the compounding principle—the auto companies have already done the things UAW now wants to write into the contract. In 1950, they increased the improvement factor so it would come closer to equaling 2.5% of the base rate, and they also transferred part of the escalator float to the base wage.

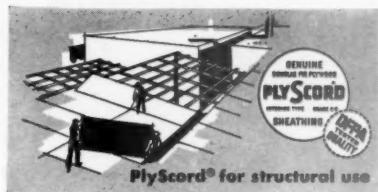
UAW now notes this history and dismisses the idea that it is proposing something new. It has told both GM and Ford:

"The 1955 agreements would merely provide an automatic mechanism to accomplish a result that would in any case be brought about by negotiations." To which the response will certainly come: "Maybe. But automatic mechanism will keep a company's wages indefinitely moving up regardless of its profits."

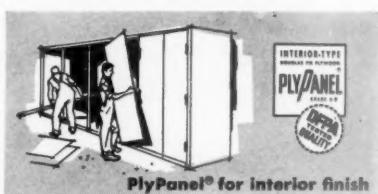
Breaking the Pattern?

While attention centered this week on UAW's bargaining with General Motors and Ford, American Motors Corp. began contract talks with the union. Its announced aim: Avoid a "pattern" settlement in the industry.

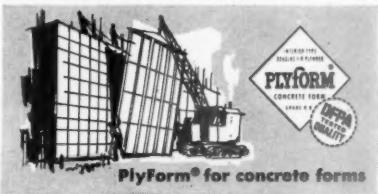
In the past, auto contracts have passed down almost intact, from big companies to small ones. UAW expects it to happen again this year, although it is willing to talk about guarantees based on pooled funds.



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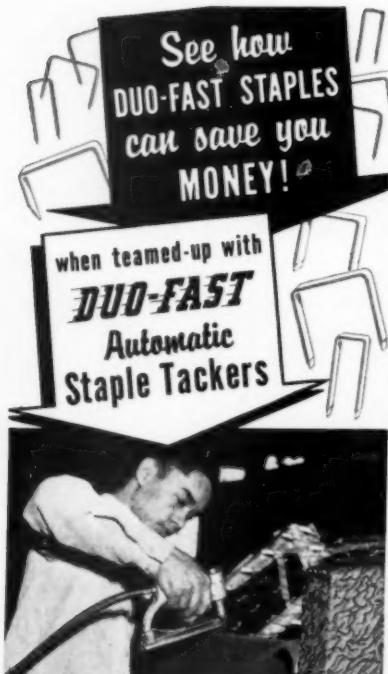
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In the Near Future...

Merger Set

The only really important question unsettled is the name of the joined AFL and CIO. Everything else is either agreed to or well on its way to agreement. Look for the formal merger to be effected around Thanksgiving.

Although CIO lawyer Arthur Goldberg is writing the constitution for the merged group, AFL terms will govern. And if you want a guess on the new group's name: AFL-O-American Federation of Labor Organizations. Adding one letter to AFL will be close to the ratio established for settling other merger issues, with AFL interests prevailing at better than 2-to-1.

However, there will be important effects when the CIO unions move into the Federation. The first of these is apt to be a new burst of labor or-

ganizing activity. There is significance in the fact that Walter Reuther found his convention of CIO auto workers enthusiastically supporting his proposal to contribute \$1.5-million from the union's general funds for a post-merger organizing drive. This money won't be earmarked just for recruiting non-union workers in the auto union's jurisdiction; it will be available for financing campaigns in all areas where unionism has lagged or where organizing prospects look promising.

Other CIO unions and at least some AFL units will follow the Reuther lead with substantial contributions of their own. Many of them also are prepared to assign skilled staffmen to a nationally directed organizing drive.

Look for it to get rolling in 1956.

Coalition Won't Last



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The talk of a farm bloc-labor lobby political entente has grown out of all proportion to the realities. It started when union leaders announced they would back renewed 90% price supports. This delighted the farm bloc, which usually runs into heavy opposi-

tion from city senators and congressmen, the very group in which the unions are most influential. But there wasn't any "deal" behind the labor stand. It was simply considered smart politics: Make a few friends because the controversial bills to amend the wage-hour law are coming up soon.

Sure enough, with a touch of noblesse oblige, Southern farm congressmen let it be known they weren't against raising the present 75¢-an-hour wage to the Administration-sought 90¢. But the labor unions want the figure to go to \$1. Even more important, they want the coverage of the law substantially broadened, beyond even the Administration's recommendation. It is most unlikely that this will have the support of any appreciable number of farm bloc legislators. When they stand up to be counted against it the "coalition story" will be punctured.

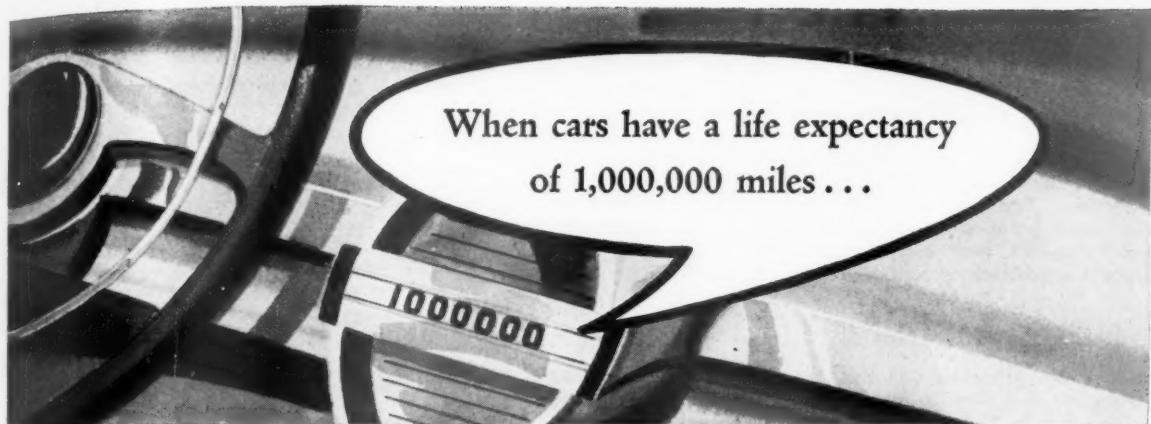
Don't, however, discount the possibility of future ad hoc cooperation between Washington's two biggest lobbies—especially because they both feel they have some real grievances against Eisenhower policies.

Hoffa's Hurt

Sewell Avery didn't stop fighting unions because he wanted the Teamsters union stock in Montgomery Ward voted for his slate against Louis Wolfson—although that's the impression Teamsters union vice-president James Hoffa systematically disseminated. But the Teamsters don't influence enough

stock to make a real difference in the proxy fight.

Avery made his deal with the union for reasons much more familiar to other businessmen: He wanted to avoid a strike. A strike would have a far greater effect on the proxy fight than the votes of the Teamsters' shares. Coming when



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the Avery-Wolfsen battle entered its most decisive stage, Wolfsen would have used it as proof of his contention that Avery's personal crotches are Ward management policies, and that they are not in the stockholders' interests.

Hoffa's big talk has made labor men, both inside and outside the Teamsters union, sore. Some local Teamster officials have heard from their banks. Hoffa suggested that depositories of Teamster funds were expected to vote

whatever Ward stock they hold for Avery, and bankers resent it. Furthermore, Washington repercussions are serious. Hoffa's boasts of how he would use the voting rights of securities in union welfare and pension funds has put new steam behind demands for strict government regulation.

Upshot is that this rising figure in the labor hierarchy has lost some face. If he acts in character, he'll be looking soon for a new coup with which to regain his prestige.

Bust-Up Coming

Republican politicians had their fingers crossed this week as Labor Secy. Mitchell had his first meeting with his new advisory committee of union leaders. Mitchell has been trying to put this committee together almost since that day, 15 months ago, when he succeeded Martin Durkin as Eisenhower's first Cabinet replacement. That he finally got such men as George Meany and Walter Reuther to accept membership on it testifies to his skill and persistence. And he has no illusion about the possibility that the whole thing may blow up in his face.

The idea of a Labor Dept. advisory

committee isn't new. It was used extensively by previous Democratic Administrations as a format for getting both policy coordination and political cooperation from the unions. Mitchell has no expectation of the latter, but he does think the possibility of the former is worth the risk.

That risk is, of course, that men like Meany will use the committee, or its dissolution, as an opportunity to blast the Administration.

Until that crisis comes, Mitchell is determined to work with his new advisory group in the greatest good faith.



U.S. Steel's Memorial to a Labor Leader

This summer, the U. S. Steel Corp. and the United Steelworkers (CIO) will meet for what could be better bargaining on USW wage demands. But this week a spirit of fellowship prevailed between "Big Steel" and the union as the corporation paid unique tribute to the late Philip Murray, president of USW and of CIO.

Clifford F. Hood, president of U. S. Steel, presented a 16-inch sculptured figure, Man of Steel, to be a permanent part of the furnishings of the Philip

Murray Hearing Room in the American Arbitration Assn.'s New York offices. Hood said the corporation's gift was in memory of Murray, a "great American and a great leader of men." In turn David J. McDonald, Murray's successor as head of USW, praised U. S. Steel's cooperation with steel union leaders in "a partnership effort."

CIO endowed the room in the American Arbitration Assn. offices as a memorial to Murray's efforts to settle labor disputes by peaceful processes.

LABOR BRIEFS

A war clause reopening contracts on wages automatically if the country goes to war may be sought by the Brotherhood of Teamsters (AFL) in bargaining later this year. The strong Western Conference of Teamsters has recommended such a clause to locals in 11 states. The proposal has even wider significance in view of the Teamsters' growing interest in uniform national contracts.

An employer must tell a union how much it is paying the employees the union represents, the Supreme Court in effect held this week. It refused to review a lower court's decision that Whitin Machine Works, Charlotte, N. C., must give the United Steelworkers (CIO) data "obviously related to the bargaining process."

A strike ended at U. S. Rubber Co.'s 19 plants with a settlement, after six days, on what the United Rubber Workers (CIO) calls "28 improvements" in contract terms covering 33,000 workers. Most involve work conditions; wages weren't an issue. Vacation provisions are liberalized for workers with 10 to 15 years' seniority, and a seventh paid holiday is provided.

An election victory is claimed by labor in Sheboygan, Wis., where farm-labor backed candidates won the mayor's seat and a majority on the board of aldermen. The year-long Kohler Co. strike in bordering Kohler (BW-Apr. 955, p169) was an election issue. Two members of the striking local of the United Auto Workers (CIO) were among those voted into office.

A new labor relations law for Kansas has resulted from Gov. Fred Hall's legislative demands (BW-Apr. 255, p127). It bars jurisdictional strikes and secondary boycotts, requires secret balloting on strike or contract decisions, and sets up a code of fair practices for employers and unions. The union shop is legalized, at Hall's insistence.

Wage cuts averaging about 10% have been accepted by 335 AFL employees of Oshkosh B'Gosh, Inc., in Oshkosh, Wis., as "a matter of practicality"—the alternative was a cutback in production in Wisconsin, expansion at the company's Tennessee plant. In return for wage concessions, the company promised to introduce new methods and equipment; if employees step up output, they can regain part of their wage loss.

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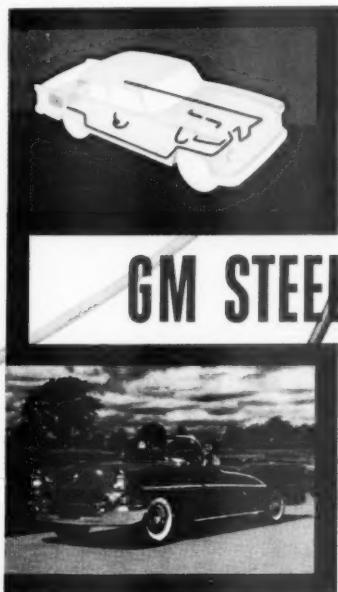
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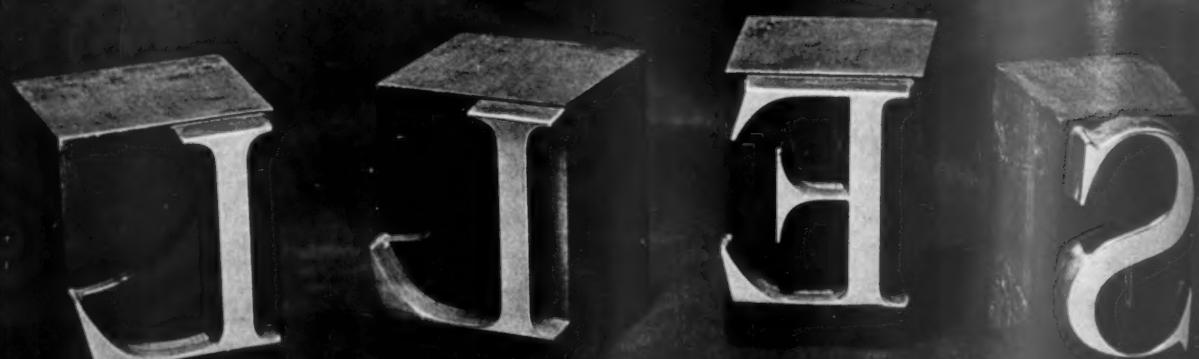
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PERSONAL BUSINESS

BUSINESS WEEK
APR. 16, 1955



The Salk polio vaccine (page 136) will be in short supply for the upcoming polio season. Unless your kids are in first or second grade, where they'll get shots automatically, they will have only a little better than a 50-50 chance of inoculation through private physicians.

Your best move: Get in touch with your doctor immediately—in the hope that he'll have enough of an allotment to go around. It may help your chances to get on his list early.

More leisure time is an appealing idea to almost everybody. Yet in practice, the average person is likely to find that he can't handle it properly. There's an excellent chance, say the experts in the field, that he's taking more of a loss than a profit from his leisure.

This is especially true of executives who concentrate most of their waking hours on their jobs. They tend to equate leisure with laziness, or with lack of character. They tear into golf or bridge with the same sense of struggle that they apply to their work. They can't relax.

Any such approach to leisure can be dangerous. Health and management authorities agree that the busier you are, the more necessary it is to use leisure time profitably—which means really to enjoy it.

What you do with your time off has a profound effect on your health, your job, and—most important—your future. The way you handle your leisure now is a pretty accurate preview of how you will take retirement.

But how do you go about building up a sensible program of leisure?

In the final analysis, of course, the answer lies with you—your own personality, peculiarities, likes and dislikes. But the specialists do suggest certain basic attitudes and ideas that will serve as a general guide.

First of all, enjoyment of leisure won't come naturally or easily; you have to learn it just as you learned your job. And you can expect it to take just as much management, discipline, and thought to work out a plan of leisure as it takes to plan your job.

On the other hand, don't regard the capacity for gaining pleasure and benefit from your time off as some mysterious attribute limited to a select few. Like work, play is a habit, say the experts. And—also like your work—it's a habit that becomes more skilled with experience and thought.

Watch out for a common pitfall here—the tendency to use the same techniques you use in your job. In other words, beware of going right on working when you think you're playing. Play isn't play if it's work.

The difference is this: Pleasure is merely desirable in work. In play, it's absolutely essential. So if you persist in a leisure-time activity that you don't really like, it's just going to increase the tensions built up by your work—no matter how worthwhile the objective.

Also, avoid too rigid a sense of perfectionism or competitiveness. That can wipe out your enjoyment instantly. And the fear of looking like an amateur can prevent you from exploring new skills, sports, or interests. Give them a fair chance; they might be just what you want.

As with exercise, a moderate and regular amount of leisure is preferable to concentrated doses. Try to get in the habit of putting aside time each day for what you like to do best.

PERSONAL BUSINESS (Continued)

BUSINESS WEEK
APR. 16, 1955

Keep in mind that more than just immediate relaxation and enjoyment is at stake. A sound program of leisure time should have one long-range goal: the development of interests and hobbies that will partially or completely replace your work upon retirement.

Authorities say that ideally hobbies should meet three basic standards if they are to replace your work after retirement:

- They should require your full potential of initiative and creative application.
- They should remain a constant temptation.
- They should enrich your life both mentally and emotionally.

Don't expect any leisure-time activity that fills such a bill to be right there to be tapped when the time comes. It can take years to develop. But once developed, it can determine the success of your retirement.

By the same token, if you postpone your efforts to make your leisure start paying off in fun, you'll begin to feel the lack when it hurts most.

—•—

Watch for a new, low-cost accident insurance for car owners. It has already been approved in some states, seems sure to become almost universal in the future. Perhaps half a dozen insurance companies are now issuing policies.

The insurance is designed to cover car owners and their families who are injured or killed in automobile accidents.

A good example is the policy issued by Aetna Casualty & Surety Co. It is said to be the first to provide, in addition to death benefits, fixed payments for loss of limbs or sight, and for fractures and dislocations. Some of the other companies limit their policies to death or total disability benefits.

Aetna's coverage is available for maximum death benefits of \$5,000 or \$10,000 at a cost of \$3 or \$6 for one person. For each additional person, the cost is \$2 or \$4.

In addition to the death benefit, the \$10,000 coverage, for example, includes loss of limb or sight benefits ranging from \$2,500 to \$10,000, and fracture and dislocation benefits up to \$350. There's a fixed payment of \$50 for other hospital-confining injuries.

Policies of other companies are similar, but differ somewhat. There's no standard form of coverage yet. The companies are still experimenting.

—•—

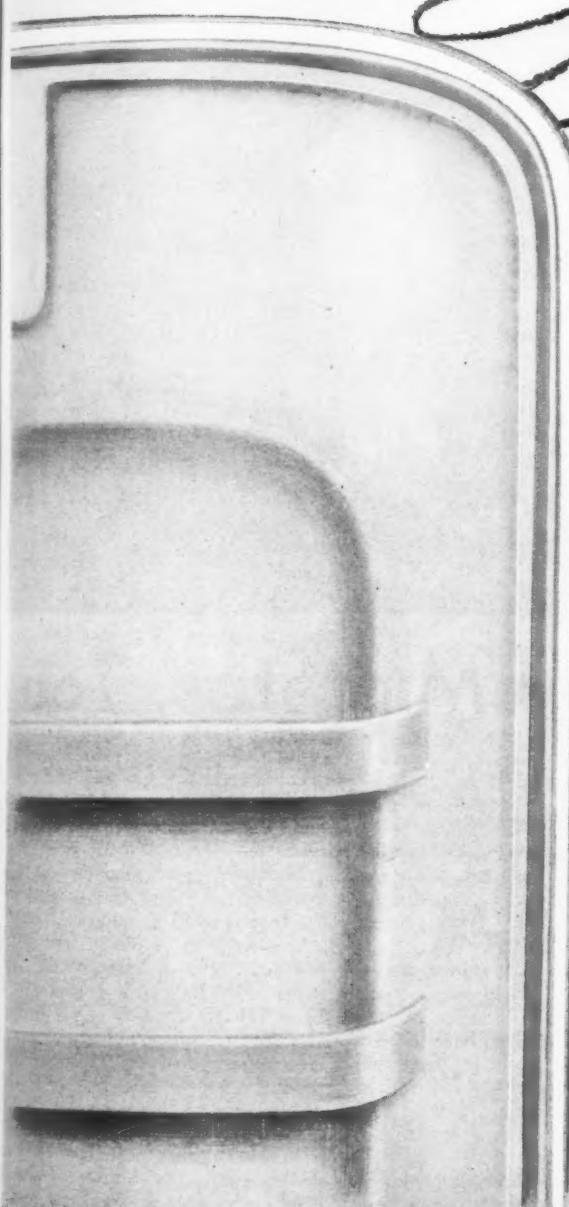
If you're dreaming of vacations now that spring is here, a couple of recent books are available at your bookstore to help firm up your plans:

- The Macmillan World Gazetteer and Geographical Dictionary (Macmillan; \$6.95) is a handy reference book for travelers and armchair globetrotters. It includes geographical, historical, and cultural facts about all areas of the world.
- Hammond's Pictorial Travel Atlas of Scenic America, by E. L. Jordan, Ph.D (C. S. Hammond; \$10) is an excellent guide to the U. S. and Canada. It contains notes and tables on transportation facilities, information on spots of interest, plenty of maps and color photos (but the photos are of poor quality).

Contents copyrighted under the general copyright on the Apr. 16, 1955, issue—Business Week, 330 W. 42nd St., New York, N. Y.

HOW TO PICK PLASTICS

HERE'S AN INSIDE STORY



It's the case of rubber-modified styrene

... That's the helpful BAKELITE Plastic used to mold the inside panel of this refrigerator door. It's an improved *tough* styrene—with just the characteristics needed for this and many other products.

BAKELITE Brand Rubber-Modified Styrene has superior impact resistance . . . takes repeated shocks (door closings) without cracking. Yet it's rigid and light in weight. Colors are integral and virtually unlimited for product appeal. And, besides high resistance to food acids and other chemicals, it has an excellent gloss that makes cleaning easy.

Your problem may call for this plastic . . . or for one of many types of vinyls, fluorothenes, phenolics, polyethylenes, styrenes, epoxies, or others. The best way to choose is to come to Bakelite Company where you find the greatest variety and largest resources for plastics keyed to your needs. The booklet, "Condensed Reference File of BAKELITE Plastics and Resins," will acquaint you with the entire family. For a free copy, write Dept. GW-61.



BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation **UCC** 30 East 42nd Street, N. Y. 17, N. Y.
The term BAKELITE and the Trefoil Symbol are registered trade-marks of UCC

Europe's corporations—as well as its people—count among Canada's post-war immigrants; they come seeking opportunities that Canadian and U.S. business may have missed. Henri Moquette (right), who heads a Dutch bank in Montreal, is out to prove Canada can learn from Europe. He's another sign that . . .



European Money Migrates, Too

Not all of Canada's 1-million post-war European immigrants have arrived with only identification tags and hungry looks. Some individuals—and many corporations—cross the Atlantic with money to invest, occasionally in business opportunities that Canadian and U.S. investors may have missed.

Look at these three corporate newcomers from the Continent:

A Dutch banking group has established itself in Montreal as Canada's 10th chartered bank, with a new office in Vancouver and one coming in Toronto. With nearly 100 years in world trade experience, the Dutch feel they can complement Canadian banks. Henri Moquette (picture), president of the Dutch bank in Canada, wants to make Canadians more conscious of export opportunities, and is looking for "young, alive" U.S. companies in Canada as clients.

A Swiss company has just opened a \$13-million cement plant in Quebec—months ahead of schedule—and may announce a second plant before long. Until the Swiss arrived, one Canadian company dominated cement. Now the newcomer has 160 dealers, and the native company is feeling a competitive pinch for the first time.

A Belgian oil firm has entered an intensely competitive field—oil marketing. After less than two years, the Belgians have 400 dealers, have just absorbed a Western producer, and will bring their own refinery—a \$28-million installation and one of the most efficient in the world—on stream in August.

• **Postwar Influx**—These are for-instances; they represent a small, but steadily increasing flow of European capital and skill to Canada.

Since the war—and especially since

1950—European portfolio investment (stocks and bonds, government and private) has increased 35%, to \$300 million at the end of 1953 (the latest available figures). Direct investment—in companies, plants, and facilities such as the cement works and gas stations—has tripled to \$186-million. If you add a classification of "miscellaneous" investment, the Belgians, Swiss, Germans, Dutch, Swedes, Italians, and French have upwards of \$600-million at work in Canada, out of a total long-term foreign investment there of \$11.4 billion.

That's small change compared to the U.S. stake—\$8.8-billion a year ago—or even to Britain's \$2-billion Canadian investment. But European capital can't help but play a larger role in Canadian development. It also can have an important influence on trade and business relationships across the

Atlantic, and on the character of the Canadian business community itself.

Canada welcomes European investment—especially direct investment that develops the country, as opposed to floating international capital, the fickle "hot money" that comes and goes. Canada needs investment. With a \$427-million deficit in current trade, Ottawa looks to outside capital to finance its appetite for world, and especially U.S., goods.

• Favorite—Perhaps no other nation has received such a steady flow of foreign capital over the years; like the U.S. in the 19th Century, Canada owes much of its development drive to the interest of outsiders.

Until World War I, British capital played the key role; in 1914 British investment peaked at an estimated \$2.8-billion, against a U.S. share of \$800-million.

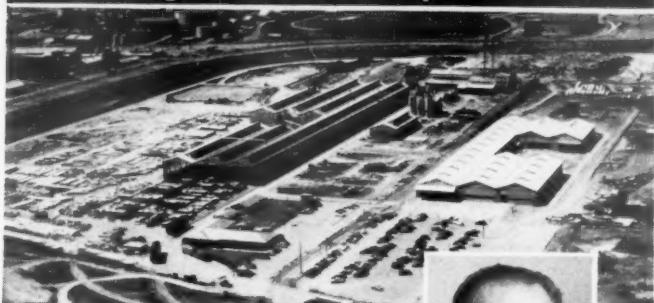
The inevitable turn came soon after, and Canada looked more and more to the industrial colossus growing up next door. Through the 1920s, U.S. business built plants, bought bonds—as early as 1926, U.S. capital in Canada was estimated at \$3.2-billion, compared to Britain's \$2.6-billion. During World War II, when the embattled British had to put their dollar assets on the block, British investment in Canada dropped to \$1.8-billion, and Yankee capital rose to \$4.1-billion.

• Revival—Britons are now slowly rebuilding their stake—especially via direct investment in Canadian companies. Britain's direct holdings have doubled postwar, while securities holdings haven't changed. Much of the money has gone into manufacturing, mining, paper, power, construction. Britons tend to buy out existing firms, with their distribution systems all set up. Lately Britain, which missed the boat in many of Canada's postwar natural resource developments, has been putting money into big projects like British Newfoundland Corp.'s power development in Labrador (BW—Oct. 17 '53, p. 140). And two weeks ago, there were reports from Vancouver that Britons planned to sink \$100-million or more into British Columbia development.

• Second Look—European investors never made much of Canada prewar. Now they see investment there as a matter of economics—and of broadening horizons. Europe is buying more from Canada—minerals, wheat—and it must earn more in Canada to pay the bill. As European capital looks for new opportunities, Canada seems a natural.

Dollar restrictions have eased a lot in recent years. Generally a European central bank would allow dollars to be invested if a company had a sound proposition. The Swiss, of course, had no restrictions, and as the cannier of the world's finance capitalists, they

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The Long Beach plant produces Transite® (asbestos-cement) pipe, new types of industrial insulations and Spinotex® home insulations for West Coast markets. The plant employs 500 men and women with an annual payroll of \$2,680,000.



"From the material side, we picked Long Beach as a plant site after study of proximity to important markets for our products and availability of such things as raw materials, water, rail, and truck transportation facilities, power and building land.

"From the human side, we looked for an adequate number of people with the skills we needed who could be suitably housed. I am happy to say that we work in an atmosphere of mutual understanding which is reflected in high morale and loyalty among employees and efficient production. Established in 1938, the plant has doubled in size since the war."

KENNETH W. HUFFINE
Vice President for Production
JOHNS-MANVILLE CORPORATION

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LONG BEACH, CALIFORNIA

The Port of Long Beach is one of the many great advantages offered to shippers and industries in the Long Beach area. Here labor saving installations speed cargo movement.

Typical of the many fine facilities is the bulk loading conveyor which will load and trim bulk cargoes at a rate of better than 500 tons per hour. Used in connection with an electric car shake-out, the loader makes quick work of cargoes such as iron ore, coke, coal, potash, sulphur, salt, gravel, and cement.

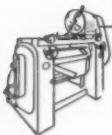
There are many other reasons for locating your new plant in Long Beach. Included are rich market area, large labor pool, lowest electric rates, cheap gas, abundant water supply, profit-making climate, better living, low taxes, raw materials, transportation savings and economic stability.

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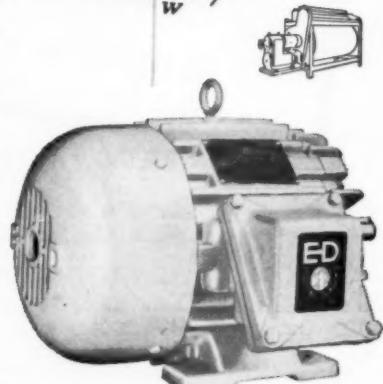
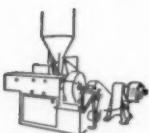


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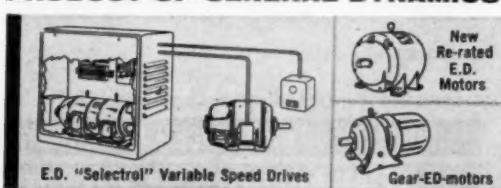
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"... larger amounts are
coming in the active form
of direct investment..."

EUROPEAN MONEY starts on p.

caught on fast to Canada. Often
countries where restrictions were
a determined investor could find a
way to get Canadian dollars—perhaps via
Switzerland. For this reason, the
exact percentage of European money
in Canada is always doubtful, and Cana-
da's statisticians don't make a break-
down of Continental investment by
countries.

The point is, the money is coming.
And larger amounts are coming in the
active form of direct investment, rather
than in passive, coupon-clipping por-
folio holdings.

The Netherlands. Nationale Handelsbank NV., Amsterdam, thought
enough of its Canadian venture to send
one of its four managing directors,
Henri Moquette (picture, page 170), to
Canada to run it. The Mercantile Bank
of Canada got its charter in March
1953, began business the following De-
cember. Its current assets are over
\$6.6-million, but it is proceeding slowly
to build a business.

A Vancouver office opened last fall to
move to get nearer to the Far Eastern
trading area that Mercantile Bank prob-
ably knows better than any other Ca-
nadian institution. Moquette is also
trying to make Canadians more aware
of Latin America, and has just returned
from a swing down there to set up new
correspondent arrangements. His top
men in Montreal blend Far East and
European experience.

Mercantile Bank publishes trade let-
ters on developments outside Canada
for exporters, and a monthly bulletin on
Canada for businessmen abroad. It wel-
comed Dutch immigrants (there's a
large contingent in Canada) as customers,
and has a corporate cousin, another
subsidiary of Nationale Handelsbank,
in the farm-financing business in On-
tario.

Other Dutch interests include the
Netherlands' share of Royal Dutch
Shell's operations in Canada; Unilever
is another longtime investment. Philips
of Eindhoven came after the war,
and is making radio and TV sets, com-
munications equipment. A Dutch life
insurance company has recently set up
a shop.

Switzerland. The value of Swiss in-
vestment in Canada is estimated at over
\$200-million—with perhaps 65% in se-
curities, 10% in real estate (an \$85-
million apartment project is going up in
Toronto with Swiss backing), the rest in
direct investment in industry, like
Brown, Boveri (Canada) Ltd., the elec-

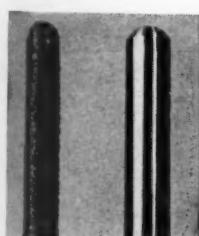


Solnus may be used for lubricating such parts as plain bearings, anti-friction bearings, linkages, slides, cams and gears.

Also for use in gear boxes, hydraulic systems, circulating systems, industrial diesel engines, and compressors.

SOLNUS GENERAL PURPOSE OILS SAVE YOU MONEY THREE WAYS

A high grade lubricant for a "squirt-can" price



ANTI-RUST TEST

Actual photograph shows steel test bars following test. Right bar was tested with Solnus. Left bar with an uninhibited oil.

VERSATILE. Solnus oils sell in the medium price bracket, yet can do many jobs on which you may now be using higher priced oils. While Solnus' low price makes it practicable for once-through uses, its high quality also makes it suitable for enclosed or circulatory systems. Use Solnus for all your general purpose lubrication and you can take advantage of the economies of bulk prices.

SIMPLIFIES INVENTORIES. Because Solnus may be used for so many applications, you can reduce the number of oils you need to store. You save space in your oil room and greatly simplify your inventory and maintenance problems.

LONG LIFE. In actual field performance, Solnus has been proven to have excellent service life under all types of operating conditions. In addition to a long service life, Solnus has the following characteristics:

- Excellent anti-rust protection
- Superior anti-corrosion protection
- Very low carbon-forming tendency
- High film strength
- Very low pour characteristics
- Mild cleansing action

These are a few reasons why Solnus oils give you "more lubrication per dollar." Write for the technical bulletin on Solnus oils. Dept. BW-4.

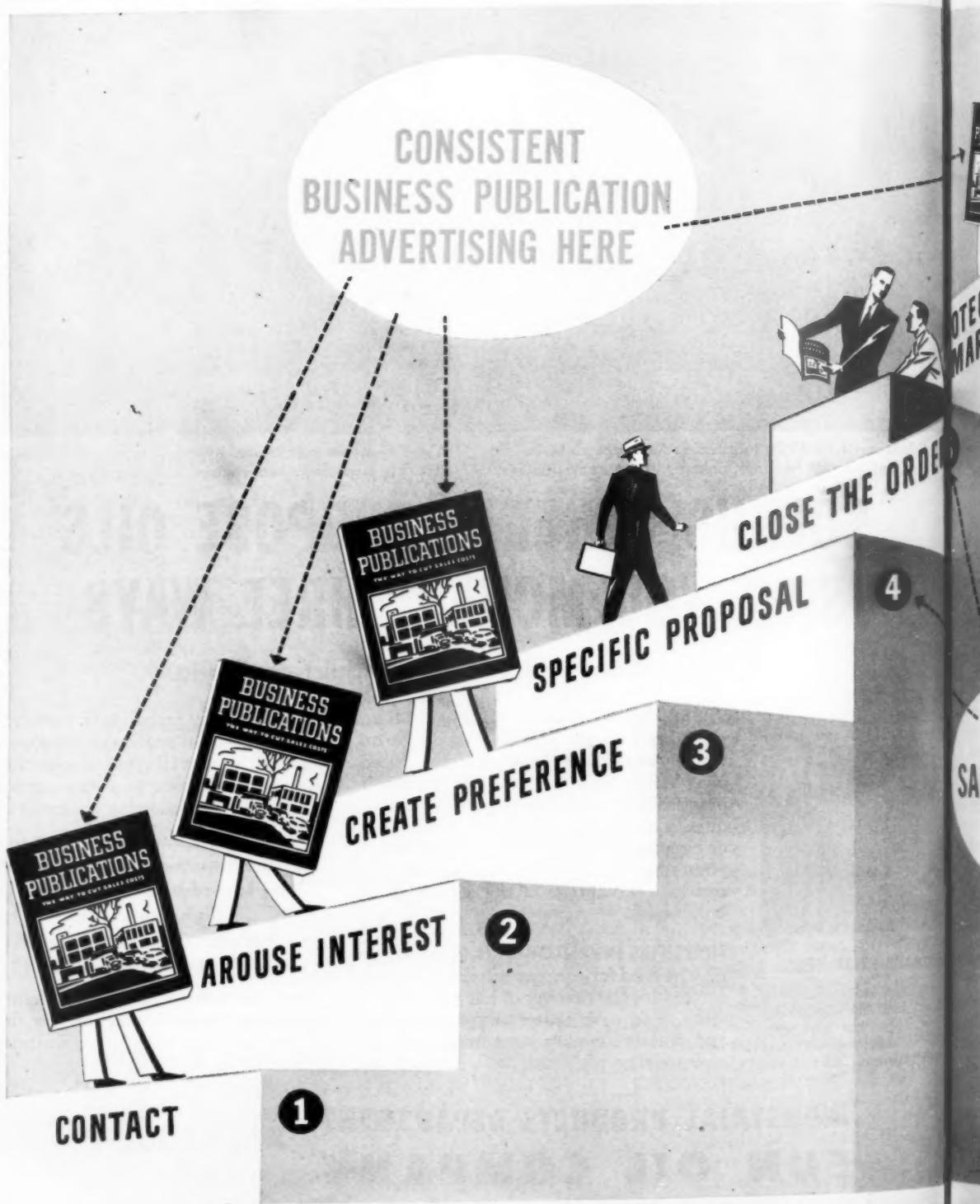
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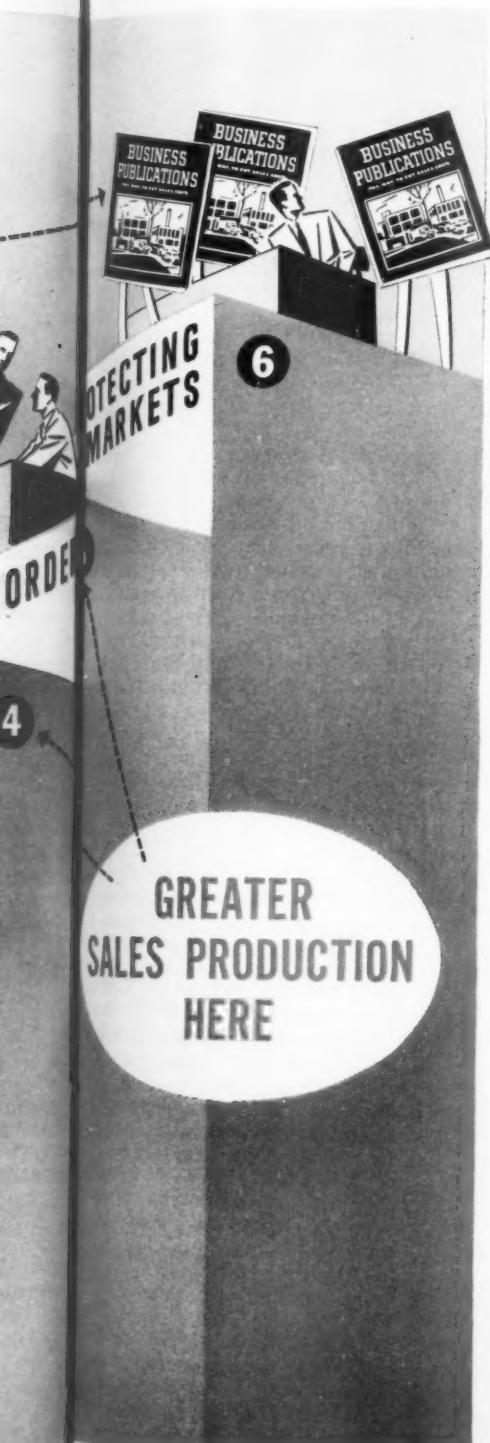


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The front line function of your salesman is to make sales. To do this—when the product sells to business and industry—he may have to sell anywhere from three to six people who have a voice in buying decisions. Each of these men must be contacted and interested to a point of preference for your product before the salesman gets to the pay-off steps. And this build-up is costly and time-consuming.

The efficient, economical answer to the problem is to use Business Publication Advertising to find and condition prospects so your salesman can devote his valuable time and talent to making the specific proposal and closing the sale. We call such advertising "Mechanized Selling," because it multiplies and speeds up sales effort. At pennies per contact, it acquaints prospects with your product or service and keeps them sold after the sale.

When you consider that the average industrial sales call costs over sixteen dollars, it pays to provide the salesman with the inexpensive advertising help that will enable him to get more done with less leg work and waiting time . . . that will make his sales calls more productive . . . that will lessen the chance of losing an order because of failure to contact a hidden buying influence.

More specific information on the industrial salesman's working time—plus a chart for measuring his calling power—is available in a McGraw-Hill booklet entitled "How Many Accounts Can Your Salesman Handle?" Ask your McGraw-Hill man or write Company Promotion Department for a copy.



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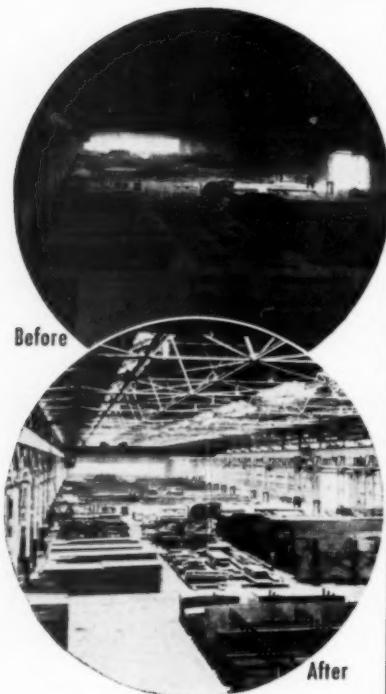


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"... eventually the Belgians plan to span the nation and perhaps enter the U.S. . . ."

EUROPEAN MONEY starts on p. 1

trical manufacturer, or Ciba Co. Ltd., the drug house.

• **Competition**—St. Lawrence Cement Co., which began operations just outside Quebec City two months ago, is the result of Canadian concern over its relatively slow expansion of cement production. Also, some Canadian officials felt that Canada Cement Co. (capacity 17.5-million bbl. yearly, plus other cement holdings) had too dominant a share of the nation's 22.5-million bbl. The industrial commissioner of Quebec approached the Swiss, Holderbank Financiere, with 20 cement plants in the world, to see if it was interested.

The Swiss had been thinking of coming to North America. The U.S., they felt, was too hotly competitive. Canada looked fine.

In St. Lawrence Cement, the Swiss have tried to combine European experience with North American machinery. With lower wages, but higher material costs abroad, the Swiss had stressed saving on materials. With higher Canadian wages, machinery was especially designed to save labor. The Swiss claim they are saving both. Of their 21 plants, only three have a lower labor factor than St. Lawrence Cement and its 1.5-million bbl. yearly capacity.

The Swiss chose Quebec because it had no cement plant, and Canada Cement was shipping in from Montreal, with a high transport charge. With 160 dealers, St. Lawrence Cement already has made its presence felt, and Canada Cement has had to meet its price in the Quebec market. The next move may be a plant in Ontario, or western Quebec, in the heart of the competition's market.

Belgium. Cement looks like a good bet to the Belgians, too, and a Brussels combine is going into the business with a small \$7-million plant in Alberta. The same group is now buying into base metal mining, and has plans for manufacturing enterprises.

Belgium's standard-bearer is Canadian Petrofina Ltd., an oil marketing company fast spreading into production and refining. It is controlled by Cie. Financiere des Petroles "Petrofina" S. A., Brussels, with operations in several countries.

In 1950, Petrofina set up a small exploration outfit in the West. Later, it wooed the general sales manager away from McColl-Frontenac Oil Co. (Texas Co.'s Canadian affiliate), and set him up in May, 1953, as operating head of Canadian Petrofina.

• **Setup**—Petrofina pushed first into retailing—between October, 1953, and

now, it has built a system of 400 dealers in Ontario and Quebec. Eventually Belgians plan to span the nation, perhaps enter the U.S.

Outsiders marvel at Petrofina's growth—especially with very sparing advertising and promotion. On the other hand, Brussels hasn't spared the expense to find the best station sites and best operators.

Petrofina will have its own 20,000-bbl.-a-day refinery in Montreal at the end of this summer. Last fall, it made a deal with a Western company for a share of production; in January, it absorbed Canadian Consolidated Oil & Gas Co., another Alberta producer, through an exchange of stock. In the first six months of 1954, Petrofina had sales of \$4-million and a net income of about \$38,000. This year, its second in full operation, Petrofina expects to do even better.

West Germany. The Germans are coming to Canada as partners in some plants, by and large, and with a minimum of dollar investment. Apparently Bonn prefers the export of machinery rather than dollars, figuring the company in question can borrow in Canada on the machinery. The Industrial Development Bank, a government corporation, has made quite a few loans to Germans. Other Germans take in silent Canadian partners; Ernst Leitz (Canada) Ltd., the Leica camera manufacturer, borrowed from a chartered bank.

Perhaps the largest direct German investment is the \$6-million plant of Canadian Western Pipe Mills Ltd., going into production next month in Vancouver. Volkswagen Canada Ltd. has bought a 22-acre site near Toronto. It is figuring on a parts depot—but if the Volkswagen continues selling like hot cakes (BW—Apr. 9 '55, p. 140), there may be an assembly plant.

Other German groups are in ballbearing manufacture, hoists and cranes, drugs, electric motors, toys, paints, shoes, and plumbing equipment. Not all European manufacturing investments are successes, to be sure. The new plant of Pittsburgh Piping & Equipment Corp. at Hamilton (BW—Apr. 2 '55, p. 106) was taken over from Germany who couldn't make a go of it.

• **Other Entries**—Other Europeans have heard the call to Canada. Sweden's SKF, the ballbearing combine, located there in 1949. Norwegians are making hand trucks and trailers; the French are busy with lingerie and precision instruments; and Italians are making auto-springs and power shovels.



McCray paint-line operators like the DeVilbiss system because it makes the paint spray the same, cover the same regardless of room temperature or weather conditions.

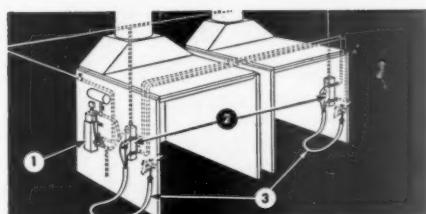
DeVilbiss hot-spray system has cut rejects at McCray Refrigerator Co.

Familiar problem: Rejects had been slowing production and causing costly refinishing at the McCray Refrigerator Company, Kendallville, Indiana. The hot-spray equipment McCray had been using failed to maintain the precise pressure, temperature, and viscosity control necessary in the application of enamel paint.

Cost-saving solution: McCray took its problem to DeVilbiss. The result: DeVilbiss' hot-spray system has cut rejects; reduced air and fluid pressures; and keeps temperature and viscosity constant, providing flawless coverage. Production, now running a full 8-hour day without a break, has increased.

Because of accurate temperature control *right up to the gun*, McCray has realized big savings. Less solvent is used in the paint. What's more, the simple operation of the DeVilbiss system has made the enameling job easier; cut maintenance costs substantially.

What to do: Let a DeVilbiss representative show you how *you* can improve your finishing operations. The standard components of DeVilbiss' paint-heating system can be combined in countless ways ... to meet your special needs.



DeVilbiss hot-spray system is foolproof; adapts to multiple gun hook-ups. Hot water from master heater (1) heats paint in exchangers (2); heat-jacketed hose assemblies (3) keep paint hot right up to guns, assuring uniform viscosity at all times at each gun.

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Red Ink on Purpose

Canada's planned tax cuts mean a shift from revenue surplus to a deficit. The aim is a healthier economy.

Last week Canada demonstrated its conviction that stimulating production and reducing unemployment are considerably more important than a balanced budget.

Specifically, Finance Minister Walter E. Harris (right) informed Parliament of the Liberal government's plan to cut taxes back to a point that is expected to put the government in the red by \$160-million.

Results of Canada's planned budget deficit will be important to the U.S. for these two reasons:

- Canada is our biggest customer and biggest supplier. Our exports to Canada last year came to \$2,765 million or 18.4% of all we sold abroad. Our imports from our northern neighbor amounted to \$2,376-million—23.3% of our total imports.

- The Canadian experiment with flexible budget management as an economic stimulant will serve as a test run for a policy that U.S. government planners are being urged to adopt as a bipartisan doctrine. Both Republican and Democratic members of the Joint Committee on the Economic Report agreed this month that "the objective of our tax policy should be to balance at least the cash budget at maximum employment and production levels" (BW-Mar. 19 '55, p38).

This means unbalancing the budget in periods when less than maximum employment and production levels prevail.

I. Enter Lord Keynes

To some economists, the shorthand for this principle is "Keynesian economic policy." But when Canadian newspapermen asked Finance Minister Harris whether his budget was not following the principles laid down by the late Lord Keynes, distinguished British economist (BW-Jan. 8 '55, p104), Harris replied, "Who's Lord Keynes?"

In a telephone interview with **BUSINESS WEEK**, Canada's Deputy Finance Minister, Kenneth Taylor, interpreted his chief's question this way: "Of course, my minister knows who Lord Keynes was. But he was refusing to let people put a label on his policy. Not that there is anything the matter with Keynes, but identifying a policy as 'Keynesian' means different things to different people. It's simpler to say that when times are good, you should be running a budget surplus. And most people in Canada agree that when



WALTER E. HARRIS

times are not so good, you should run a budget deficit."

One striking aspect of Canadian business and banking reaction to Harris' budget was that many critics felt that the budget was not unbalanced enough.

- **Criticism**—The *Toronto Globe and Mail* (Conservative) was appalled because Harris "did not have the courage to plan for a real deficit—say, half a billion—which would have permitted real tax reductions."

The *Toronto Daily Star* (Liberal) called the budget "unimaginative" and said Harris was "too timorous" to budget for a \$500-million deficit, which the Star felt was warranted for sizable tax reductions and increased government spending.

- **Bankers Happy**—But Harris' budget found many supporters who thought its programmed deficit "just about right." Bankers called the budget a mild stimulus to business and admired Harris' "wise selection" of benefits to the various sectors. Corporate taxes were cut from 49% to 47% and personal income taxes by 12% to 13% for 85% of the taxpayers. Excise taxes were also sliced: The tax on automobiles went down from 15% to 10%, and the 10% tax on tires and tubes was repealed.

Businessmen generally considered the budget, more than anything else, as a builder of confidence at a time when the nation needs a little. Last year's slow-down of the postwar boom gave many people the jitters. Until last

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**"... a shot-in-the-arm to
make the deficit smaller
than forecast . . ."**

BUDGET starts on p. 178

year's slump, Canada's Gross National Product had increased every year since the war by an average of 5%. But in 1954, GNP was down \$400-million, or by about 2% (BW-Jan. 8 '55, p89). Several things were to blame:

- The value of wheat production was down \$500-million because of a bad crop.

- More intense foreign competition hit certain industries, particularly textiles and electric appliances and apparatus (BW-Nov. 27 '54, p172). Since last fall and winter's downturn, however, nonfarm production has stabilized—but has not increased substantially.

- Exports, which make up nearly one-fourth of Canada's GNP, ran about 7% behind the previous year's. To some degree, the U. S. recession during the first three quarters of the year accounted for the slump in demand for Canadian goods.

In the boomy postwar years through 1953, Canadian finance ministers budgeted for and got surpluses. In consequence, the Canadian national debt was reduced by 16%.

- **Unexpected Deficit**—For 1954, Harris' predecessor, Douglas C. Abbott, had planned for a budget surplus of \$4-million. But the slump in GNP caused government revenues to fall short, and Canada wound up 1954 with a deficit of \$148-million.

Now Harris has reversed the postwar surplus-budgeting cycle by planning for a deficit of \$160-million. But he hopes that tax cuts will give the economy enough of a shot-in-the-arm to make the deficit smaller than forecast.

If the slack in the Canadian economy could be picked up and the normal growth rate resumed, GNP this year would exceed \$26-billion. With a GNP of that size, Harris' budget would actually wind up in balance.

- **Harris Optimistic**—But Harris has estimated his budget on the assumption of only a \$25.25-billion GNP—which many of his critics regard as too optimistic. Harris doesn't think so. He points out that in the fourth quarter of 1954, GNP (which was \$23.9-billion for the year as a whole) was running at an annual rate of \$24.4-billion. To hit Harris' estimated \$25.25-billion for 1955 as a whole, the economy would have to attain a level of \$25.75-billion by the fourth quarter of 1955—a rise of approximately 5.5% over last year's fourth quarter.

Greater resource use, Harris thinks,

can accomplish this. Unemployment in Canada in February (the most recent month for which data are available) was about 7% of the labor force. But employment in Canada shows greater seasonal fluctuations than in the U.S. Seasonally adjusted, unemployment is now about 4½% of the labor force.

The interesting point about Canada's deficit budget is its adoption (1) when unemployment is at a level that most economists would regard as moderate and not deflationary and (2) when the Canadian economy is slightly on the upgrade. But Canadians aren't satisfied. They want their economy to regain the more rapid rhythm of growth attained in the 1946-53 period. Harris' budget message aimed at this demand by calling for appointment of a Royal Commission to "examine carefully our future economic prospects . . . both our productive capacities and in our external markets . . . [and] our population growth in both its regional and age distribution aspects."

The new Canadian budget, which will have an easy passage through the Liberal-dominated Parliament, has a political significance that goes beyond its economic importance. It focuses attention on its author, Walter Edward Harris.

II. Rising Star

In many circles, he and Lester B. Pearson, Secretary of State for External Affairs, have been regarded as the two leading candidates for the job of Prime Minister when Louis St. Laurent decides to retire. Lately, there has been the feeling that Pearson's star is declining and Harris' star is soaring. Up until now Harris' only handicap has been his lack of popularity. Hardly anybody had heard of him, while everybody knew of Pearson.

But the new budget fixes that. How better can you ingratiate yourself with the public than to promote a budget of tax reductions? Now people know Harris. His picture, with briefcase or family, has been splashed all over Canada's newspapers.

Harris is a likable, cautious man. He has a pale face, but a winning smile. He is 51 years old. A lawyer by profession, he was elected at the age of 36 to the House of Commons, and was reelected in 1945, 1949, and 1953.

He is regarded as a protege of St. Laurent. In 1947, when St. Laurent had Pearson's job, Harris became St. Laurent's parliamentary assistant. Next year, when St. Laurent became Prime Minister, Harris followed him, again as parliamentary assistant. In 1950, Harris became Minister of Citizenship and Immigration—a responsible job in a nation that wants immigrants so much (BW-Nov. 27 '54, p166). Last July, when

employment in most sectors (available) is still low. But the U.S. has greater resources than the U.S. in employment and labor force.

But Canada is still (1) the largest oil producer in the world, as modern as the U.S. (2) when the oil is slightly on the high side, it's not satisfied to regain its market share with attained Harris' budget, and by cash Royal Canadian Oil Company, our market share is both market and in our population regional and

budget, which through the market, has a potential beyond its market. It's a market that's been declining. Under Edward

Lester B. Pearson or External Affairs as the two members of Prime Minister's Laurentide has been declining. Hardly any

that. How can we ourselves with budget of know Harris' family in Canada

ious man, smiling smile by profession of 36 years, and was in 1953.

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Douglas Abbott became a justice of the Supreme Court, Harris replaced him as Finance Minister.

CANADA BRIEFS

Canadian chemicals will get some tax protection, according to last week's budget message. Polyethylene resins, usually from the U.S., duty free will carry a tariff of 7½%; ethylene glycol (for antifreeze) will get a duty increase. But chemicals used in animal feeds go on the free list.

New iron ore sources are opening up. Bethlehem Steel Co. begins production at its Marmora (Ont.) mine, looking for 500,000 tons yearly. Steel Co. of Canada Ltd. and Cleveland's Pickands Mather are teaming up to reopen the old Bristol mine in Quebec—some 450,000 tons yearly of pelletized iron. Land Steel Co.'s subsidiary, Caland O. Co. is ready to begin stripping the overburden from an orebody in the Steep Rock (Ont.) area. It's a \$25-million job, and actual mining is to begin in 1960 with an output goal of 5-million tons yearly.

The uranium spree continues: Last week, uraniums and other cheap mining stocks carried the Toronto Stock Exchange to its biggest day in history—12.8-million shares with first hour trading alone counting for 4-million. March set TSE records in trading (192-million shares) and values (\$264.9-million).

Hilton Hotels' deal with Ottawa to manage Canadian National Ry.'s new Queen Elizabeth hotel, now building in Montreal, has caused a major fuss. French Canadians complain that it should be called "La Reine Elizabeth"; others fear it will be known as "Hilton-Queen Elizabeth." Many see Hilton's advent as a reflection on Canadian hotelkeeping, and are pressing the government to explain itself.

Company reports: Imperial Oil Ltd. reports the highest sales volume and the largest earnings in 75 years of business. Imperial is pleased—especially in view of Canada's recession last year. . . . Canadian Pacific Ry.'s gross dipped 10% in 1954, with a 14% decline in revenue ton-miles of freight. . . . Canadian Westinghouse Co.'s earnings were the lowest in five years, way down to \$1.38-million from nearly \$4-million in 1953. Sales, at \$37.8-million, were down only \$1.5-million. . . . Canadian General Electric's net dropped 35% to \$7.1-million; sales hit a record \$210.9-million (compared to \$205-million in 1953.)

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Agency—Bond & Starr, Inc.		PORTLAND CEMENT ASSN.	8
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REMINICRU THIMBLES, INC.		Agency—G. M. Basford Co.	
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Agency—Meldrum & Fawsmith, Inc.		REVOLVATOR CO.	154
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Agency—Albert Frank-Guenther Law, Inc.		ROBBINS & MYERS, INC.	131
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Agency—The Godfrey Agency		Agency—O'Grahy-Andersen-Gray, Inc.	
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Agency—O'Grahy-Andersen-Gray, Inc.		Agency—Munn, Muller & Nichols, Inc.	
SHAW-BARTON, INC.	152	SHELL CHEMICAL CORP.	2nd Cover
Agency—O'Grahy-Andersen-Gray, Inc.		Agency—J. Walter Thompson Co.	
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Agency—Fuller & Smith & Ross, Inc.		Agency—The Schuyler Hopper Co.	
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THE TORRINGTON CO.	129	THE TORRINGTON CO.	
Agency—Hazard Adv. Co.		Agency—	
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Agency—Howard Swink Advertising Agency, Inc.		Agency—	
TUBE TURNS	124	TUBE TURNS	
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UNION OIL CO.	115	UNION OIL CO.	
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Agency—Arthur R. Mogge, Inc.		Agency—	
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Agency—Batz-Hodgson-Neuwoehner Adv.		Agency—	
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Agency—Cunningham & Walsh, Inc.		Agency—	
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Agency—Walton & Briggs, Inc.		Agency—	
YALE & TOWNE MFG. CO.	157	YALE & TOWNE MFG. CO.	
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ZIPPO MFG. CO.	10	ZIPPO MFG. CO.	
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Security and Secrecy

When the Eisenhower Administration took office it had to deal with a security problem not of its own making. Today it has to handle what you might call a secrecy problem for which it can be held partly responsible.

In the case of security, the Administration had to be sure that the U.S. government didn't employ a single Communist agent or sympathizer who could possibly be detected. Despite some mistakes made from an excess of zeal, the Administration deserves credit for the job it has done in this field.

Today's secrecy problem, as we see it, is how to keep top government officials, especially military leaders, from expressing views based on highly classified information to the press as a means of influencing U.S. foreign policy. But it also applies to congressmen who, with or without secret information, sound off as spokesmen of the nation. This practice, which has become all too frequent in Washington, can do serious damage to U.S. national interests.

A Horrid Example

The "Carney affair" is a case in point. It came at a critical point in Pres. Eisenhower's effort to find a peaceful but honorable solution of the Formosa crisis.

After the Congressional resolution on Formosa, which gave the President a free hand there, Eisenhower and Secy. of State Dulles began to build a strong U.S. bargaining position over Matsu and Quemoy—one that would strengthen the U.S. hand in negotiations or in a fight, if things reached that point.

Then Admiral Carney spoke his "off the record" piece to a selected group of journalists. His views were spread around the world in scare headlines. This produced something close to a war scare in the U.S. The President felt forced publicly to repudiate the views attributed to the Admiral. And behind closed doors he was told by Democratic leaders that they were flatly opposed to any policy that would put us, alone, at war with Red China over Quemoy and Matsu.

Carney defeated his own purpose with this interview. He weakened the position of those who want the President to defend these islands and greatly strengthened the pressure of those who maintain that this would lead to "the wrong war at the wrong place at the wrong time." This, in turn, undoubtedly undercut American negotiating strength just at a time when the British, Indians, and Russians had started three-way secret negotiations for a truce formula (BW—Apr. 9 '55, p25).

There are times when it may be necessary for the U.S. government to leave everyone guessing—our enemies, our allies, and even our own people. No doubt the military can play a useful role in such a process. But it doesn't seem that this was the purpose of the Carney

interview. Certainly it has not been the net effect.

The fact is that the Constitution—and common sense—dictates that the President, with the advice of the Secy. of State, should make foreign policy. The Joint Chiefs of Staff must play an important role in the process—but as advisers, not as policymakers or direct molders of public opinion. That's especially true when the issue of war and peace is at stake. The same stricture applies in lesser degree to individual congressmen.

This does not mean that no one can speak out on anything. The government, we believe, must not extend the role of secrecy to everything pertaining to foreign affairs. Nor does it mean that a lid should be put on military information—not even when an exception is made for "constructive contribution," such as the new Wilson directive provides. His directive restricting Defense Dept. information will lead to an increase in speculation and leaks rather than the reverse.

It seems to us that common sense is needed on the question of secrecy. It applies right now to the Formosa issue. We believe that the President and his Secy. of State, and not any senators, admirals, or generals, should be our spokesmen. We live in too dangerous an age to have foreign policy decisions made via press leaks.

Shortage of Skills

Public attention has long been focused on the shortage of scientists in the U.S. But what is not so well known is that we also have a grave shortage of skilled workers and technicians who are needed to help and support our scientists. The gravity of the situation has been brought to light by Secy. of Labor James Mitchell, who points out that of 64-million American workers only a mere 9-million have definite skills.

According to Mitchell, the number of skilled workers cannot be increased at a very fast rate, because the acquisition of skills and competence are the product of years of training. Moreover, the majority of skilled workers are in the "classic" trades, such as building and machinery. There are very few fully trained workers in such new fields as electronics and aviation.

Increasing our skilled labor pool is essential if we are to take the fullest advantage of scientific and technological developments. The more complex our industry becomes, the more we need skilled workers to keep our standard of living on the rise.

But, as Secy. Mitchell emphasized, it is not only a matter of economic well being but of national security. We are in a life or death race with the Communist world for technological supremacy. They outnumber us in terms of population. We have to make up in skills what we lack in numbers.



Photograph by Barton Murray

"How will your garden grow?"

If the insect parade seems endless and you have trouble remembering *which* insecticide to use on *which* insect—here's good news for you!

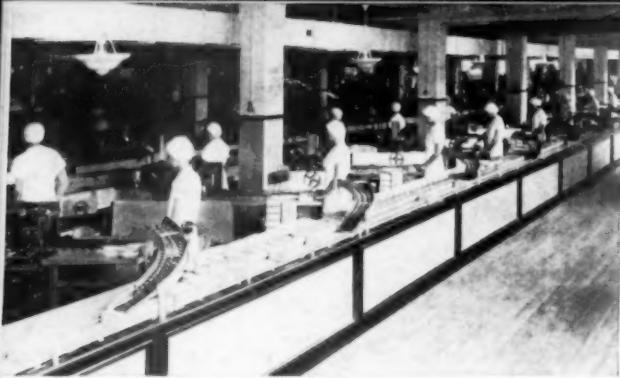
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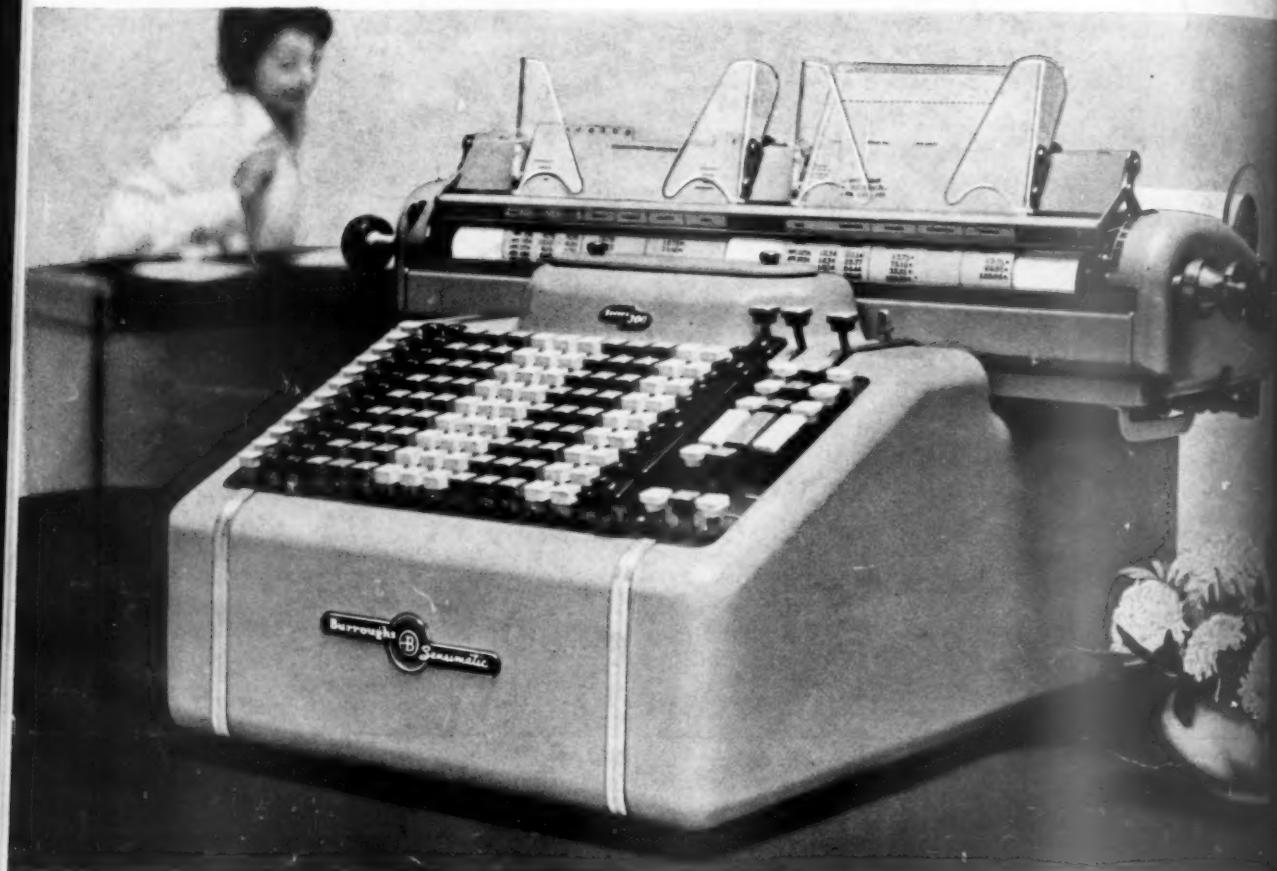
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